



A CHARTBOOK OF
**INTERNATIONAL
LABOR COMPARISONS:**
UNITED STATES ❖ EUROPE ❖ ASIA

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FOREWORD

The global economy is now a reality. In this environment, standing still means falling behind. How can countries avoid this? Building a knowledgeable and skilled workforce is key to economic growth, increased productivity, and social progress. The importance of the labor dimension in dealing with globalization is often overlooked. The ability of our workforce to adapt quickly and seamlessly to changing skill requirements and work organizations enhances international competitiveness.

Policymaking in a changing environment challenges us all. A comparative labor market perspective—including employment levels, jobless rates, labor costs, productivity trends, and hours worked—can be helpful in the policy development process. This chartbook provides comparable information that can be used to assess United States (U.S.) economic and labor performance relative to other countries and to evaluate the competitive position of the U.S. in international trade.

In general, employment growth, unemployment, and productivity in the U.S. compare favorably with countries having large, developed economies such as Japan, France, Germany, Italy, and the United Kingdom (U.K.). The U.S. compares less favorably, in certain respects, with some of the smaller European countries such as Ireland and the Netherlands and with newly industrializing Asian economies such as Korea, Singapore, and Taiwan. Americans work more annual hours than Europeans, but about the same yearly hours as workers in most Asian countries charted. Labor and product markets are generally more flexible in the U.S. than elsewhere. These are only some of the findings illustrated in the charts. I hope that you find them as informative as I do.

Elaine L. Chao
Secretary of Labor

P R E F A C E

This chartbook focuses on the labor market situation in countries in the 1990s and the most current year for which international comparable data are available. Each chart includes the United States (U.S.) and selected Asian-Pacific (hereinafter referred to as Asian) and European countries for which suitable data are available. The appendix describes the sources, methods, and definitions used to compile the data in the chartbook. For some series, the appendix provides cautions about exact comparability of the measures.

Charts 1 and 2 on Gross Domestic Product (GDP) per capita are overall measures of comparative living standards. Charts 3-11 highlight the state of the labor market by comparing major labor force, employment, and unemployment indicators. Charts 12-18 examine the competitive position of the U.S. in foreign trade by comparing hourly compensation costs in manufacturing, trends in manufacturing labor productivity and unit labor costs. Chart 19 depicts the annual hours worked by employed persons, while charts 20-22 compare public expenditures on labor market programs, labor and product market flexibility, and taxes on labor.

The charts are color coded as follows. The U.S. is always purple; Asian countries are red; and European countries are yellow. When there is more than one chart-bar per country, the second and third bars are striped the same color as the country color; for example, in chart 4 for the U.S., the bar for the labor force participation rate of men is purple and the bar for the labor force participation of women is purple-

striped. The chartbook was a cooperative effort between the Bureau of International Labor Affairs (ILAB) and the Bureau of Labor Statistics (BLS). ILAB carries out the international responsibilities of the Department of Labor under the direction of the Deputy Under Secretary for International Labor Affairs. It works together with other U.S. Government agencies to create a more stable, secure, and prosperous international economic system in which all workers can achieve greater economic security, share in the benefits of increased international trade, and have safer and healthier workplaces.

Since 1960, BLS has adjusted selected labor market data of foreign countries to improve their comparability with U.S. data. The chartbook is representative of the main output of BLS's program of international labor comparisons. In order to increase country and indicator coverage, the BLS data are supplemented by data from the Organization for Economic Cooperation and Development (OECD) and other international organizations.

A team led by Constance Sorrentino of the BLS Division of Foreign Labor Statistics in cooperation with Robert W. Bednarzik of the ILAB Division of Foreign Economic Research prepared the chartbook. The following persons comprised the BLS team: Patricia Capdevielle, Aaron Cobet, Bruce Kim, Jacob Kirchmer, Wolodar Lysko, Joyanna Moy, and Chris Sparks. Aaron Cobet prepared the overall design of the charts.

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Gross Domestic Product Per Capita

(CHARTS 1 AND 2)

Gross Domestic Product (GDP) per capita, when converted to United States (U.S.) dollars using purchasing power parities (PPPs), is the most widely used income measure for international comparisons of living standards. It should be recognized that income measures do not capture a number of variables affecting economic well-being, such as leisure time.

PPPs are used to equalize the purchasing power of different currencies. PPPs are used instead of exchange rates because GDP comparisons based on market exchange rates do not necessarily reflect the relative purchasing power of different currencies.

These two charts compare the level of GDP per capita in 2000 (chart 1) and the trend from 1990-2000 (chart 2) in 19 of the 20 economies shown on various charts in this chartbook. Data were not available for charting GDP per capita for Taiwan.

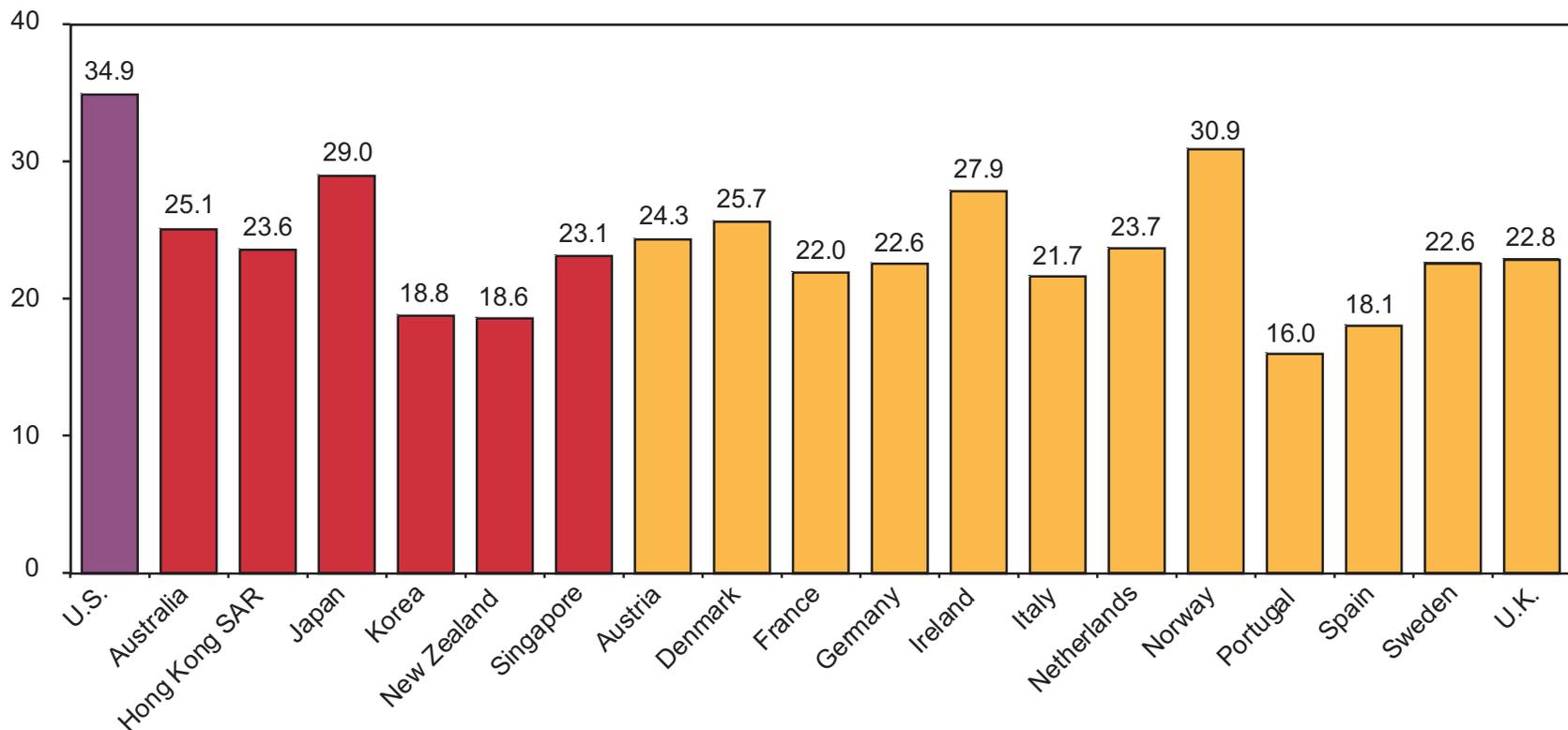
CHART

1

Gross Domestic Product (GDP) per capita, 2000 converted at PPP rates

- The U.S. had the highest GDP per capita among the 19 economies compared.
- The U.S. level was 13 percent above the country ranked second (Norway) and more than twice as great as the country ranked last (Portugal).

Thousands of U.S. dollars

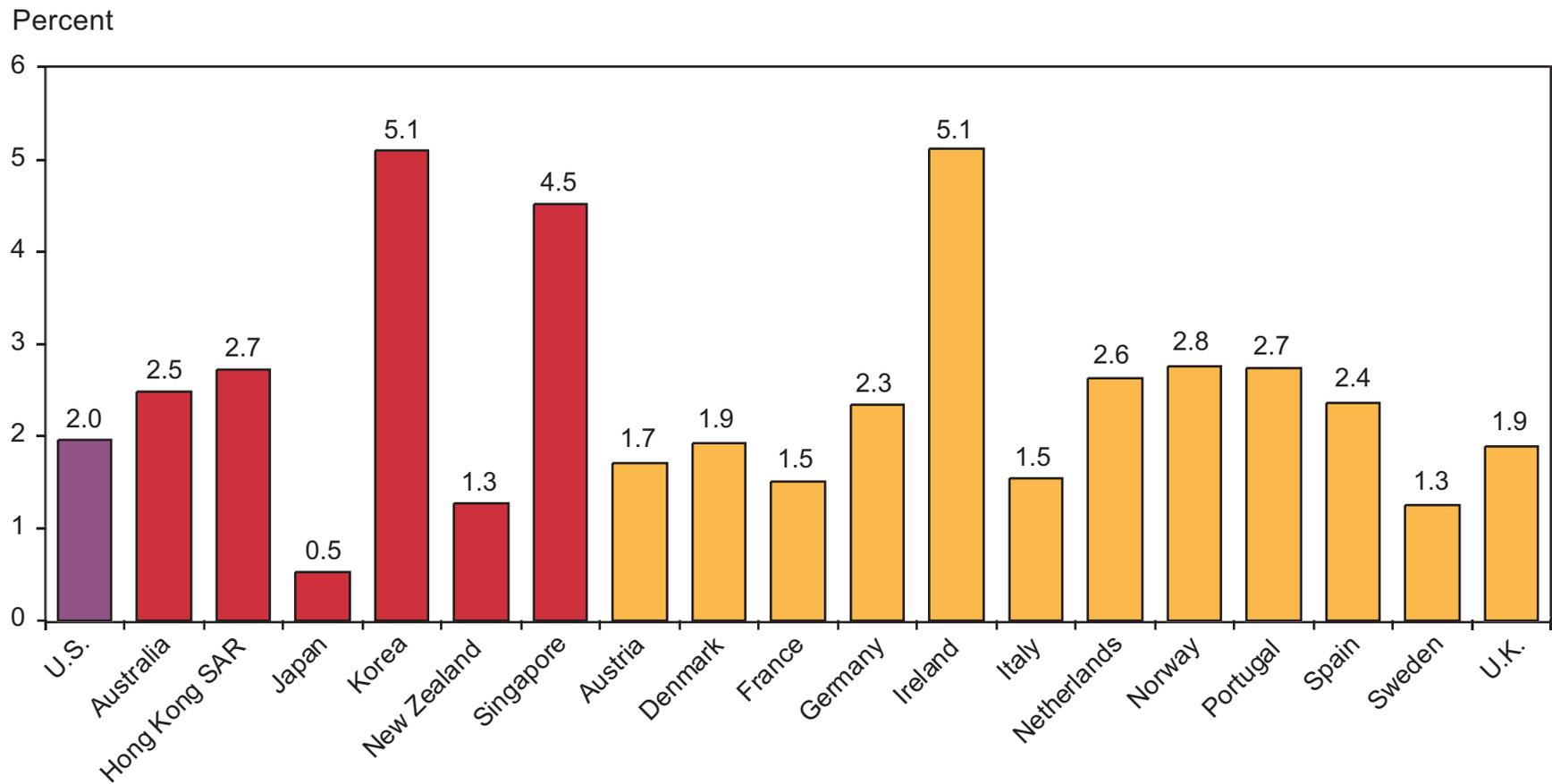


Note: Hong Kong SAR stands for Hong Kong Special Administrative Region of China. Purchasing Power Parity (PPP) is the number of foreign currency units required to buy goods and services in a foreign country equivalent to what can be bought with one dollar in the U.S.

Source: Calculated using World Bank data.

CHART 2 Average annual rates of growth in real GDP per capita, 1990-2000

- In most of the 19 economies, real GDP per capita grew during the decade at a rate of 1.3-2.8 percent per year; the U.S. growth rate was in the middle of the range.
- Korea and Ireland registered the greatest increases in real GDP per capita; Japan's increase was the smallest.



Note: Hong Kong SAR stands for Hong Kong Special Administrative Region of China.

Source: Calculated using International Monetary Fund (real GDP) and United Nations (population) data.

Labor Market Indicators

(CHARTS 3-11)

These nine charts show comparisons of the labor force, employment, and unemployment. Labor force growth (chart 3) sums up changes in both employment and unemployment over the period. Labor force participation rates (charts 4 and 5) express the extent to which different groups are either working or unemployed. Here comparisons are shown by sex and for two selected age groups relating to youths and older workers.

Employment and unemployment are key indicators of the functioning of labor markets both within and among countries. Charts 6-8 compare employment growth rates, the proportion of the working-age population employed, and the trends in part-time and full-time jobs. Charts 9-11 explore unemployment rates, long-duration unemployment, and the connection between unemployment rates and levels of education.

All but one of these charts cover 17 or 18 countries. Chart 10, however, was limited to 14 countries. Comparative labor market indicators were not available for Taiwan or Hong Kong SAR, and only some of the indicators were available for Singapore and New Zealand.

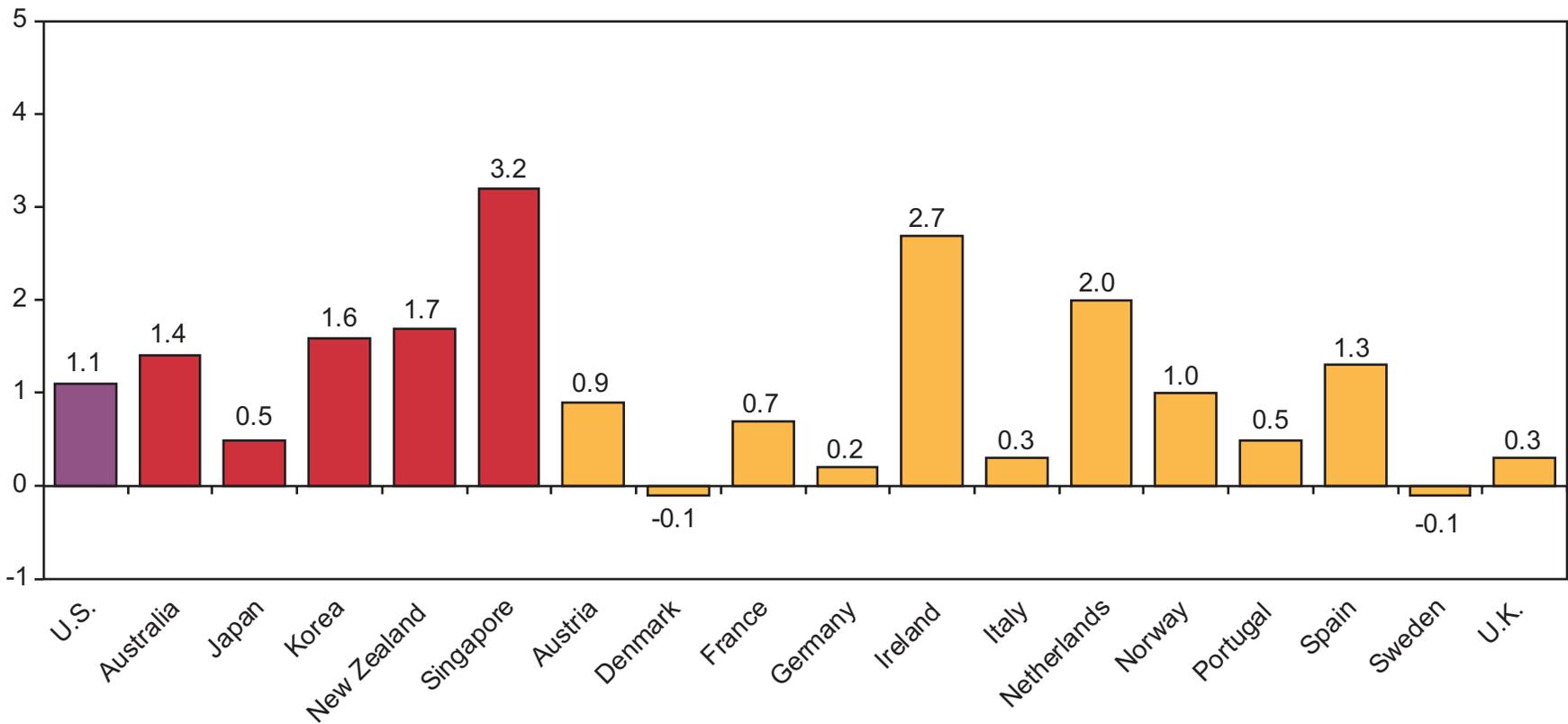
CHART

3

Average annual rates of growth in the labor force, 1990-2001

- The Asian countries, except for Japan, recorded higher labor force growth rates than the U.S.
- U.S. labor force growth outpaced that of 9 of the 12 European countries; European labor force growth was strongest in Ireland, followed by the Netherlands.

Percent



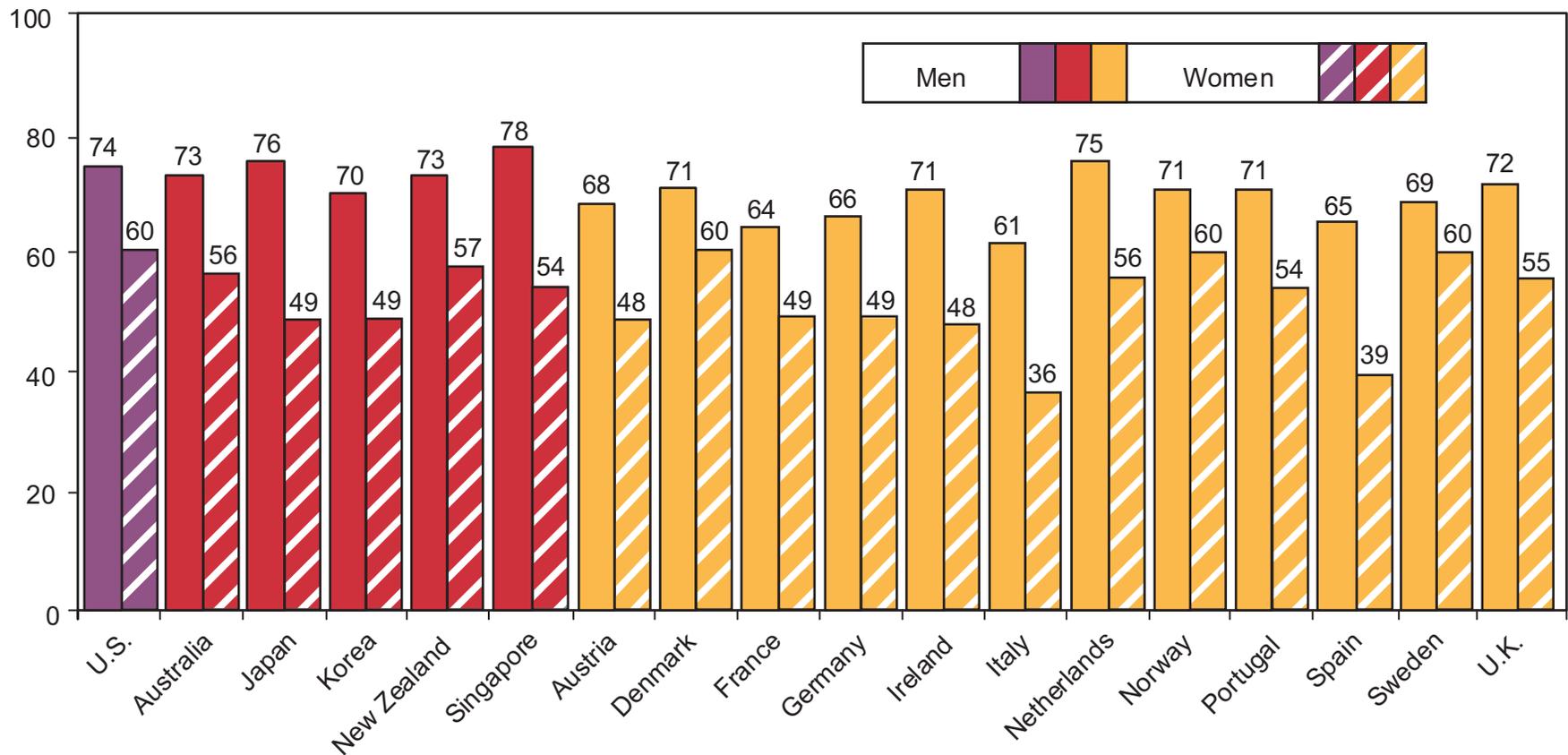
Note: 1991-2001 for Singapore and Germany.

Source: Bureau of Labor Statistics, Organization for Economic Cooperation and Development, and Singapore Department of Statistics.

CHART 4 Labor force participation rates by sex, 2001

- Participation rates for men were 70 percent or higher in most countries; the lowest rates were found in France, Germany, Italy, and Spain.
- Only in Scandinavian countries did women participate in the labor force at the same high rate as American women.

Percent



Note: 2000 for Austria.

Source: Bureau of Labor Statistics, Organization for Economic Cooperation and Development, and Singapore Department of Statistics.

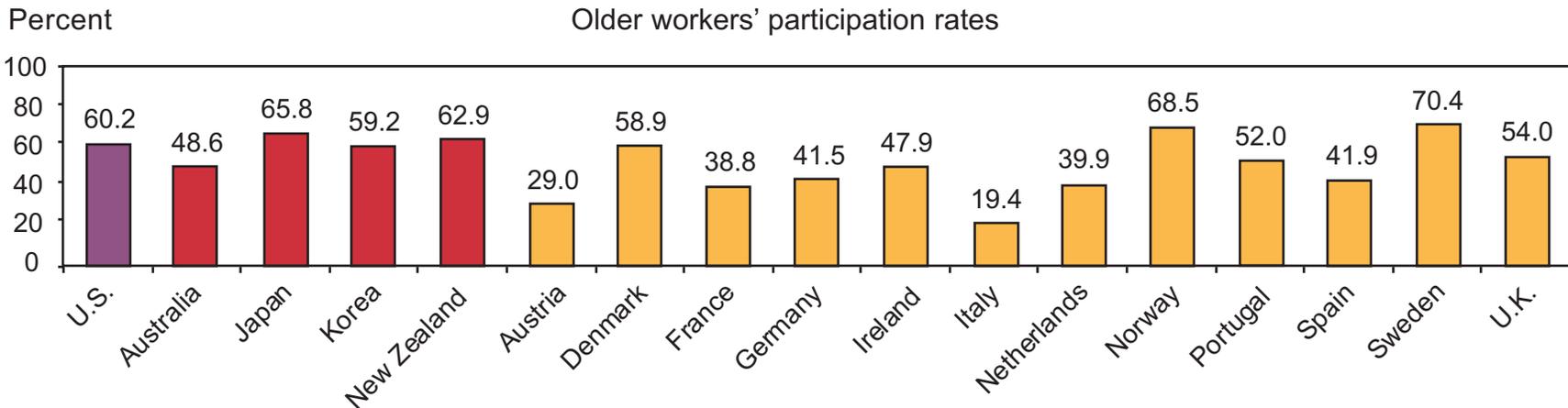
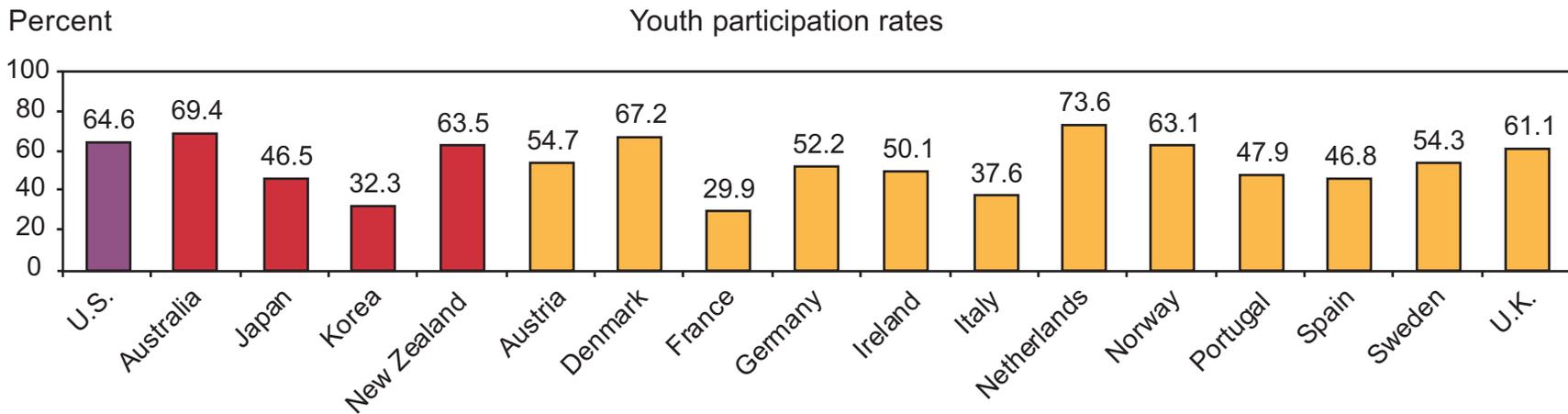
CHART

5

Labor force participation rates by age, 2001

for youths and older workers

- American youths (ages 16-24) participated in the labor market to a much greater extent than youths in Japan, Korea, and most of Europe; Danish and Dutch youths had relatively high rates.
- Older persons (ages 55-64) were far more likely to remain in the labor force in the U.S. and Japan than in most of Europe; Norwegian and Swedish older workers had relatively high rates.

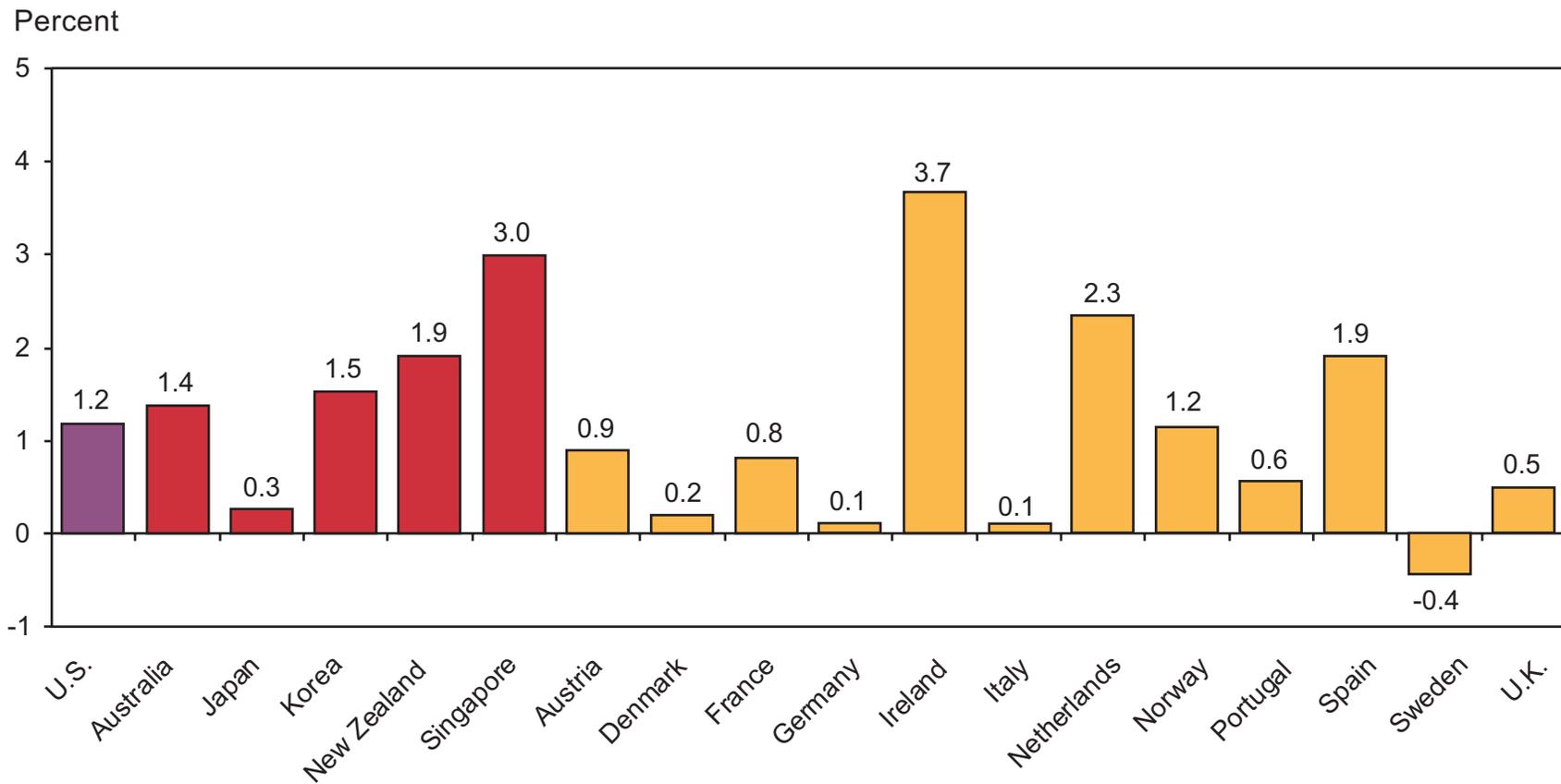


Note: Youths are defined as persons under 25 years of age and over 15 or 16 years of age. Older workers are defined as persons age 55-64.

Source: Organization for Economic Cooperation and Development.

CHART 6 Average annual rates of growth in employment, 1990-2001

- Employment growth characterized all countries except Sweden.
- U.S. employment growth outpaced that of 8 of the 12 European countries; the Asian countries, except for Japan, recorded higher employment growth than the U.S.

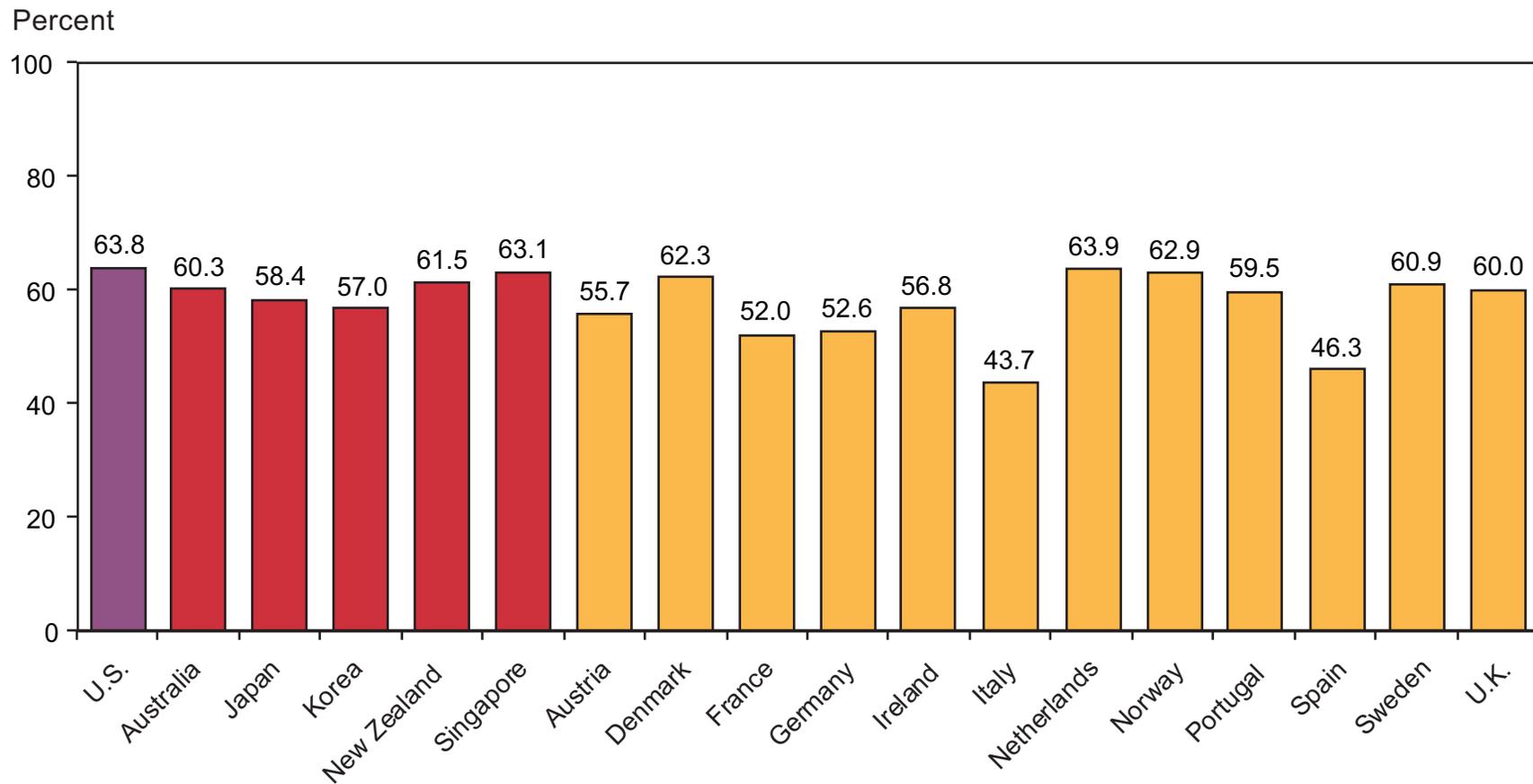


Note: 1991-2001 for Singapore.

Source: Bureau of Labor Statistics, Organization for Economic Cooperation and Development, and Singapore Department of Statistics.

CHART**7****Employment as a percent of the working-age population, 2001**

- The Netherlands, the U.S., and Singapore had the highest percentage of the working-age population employed.
- In Italy and Spain, less than half of the working-age population was employed.



Note: 2000 for Austria.

Source: Bureau of Labor Statistics, Organization for Economic Cooperation and Development, and Singapore Department of Statistics.

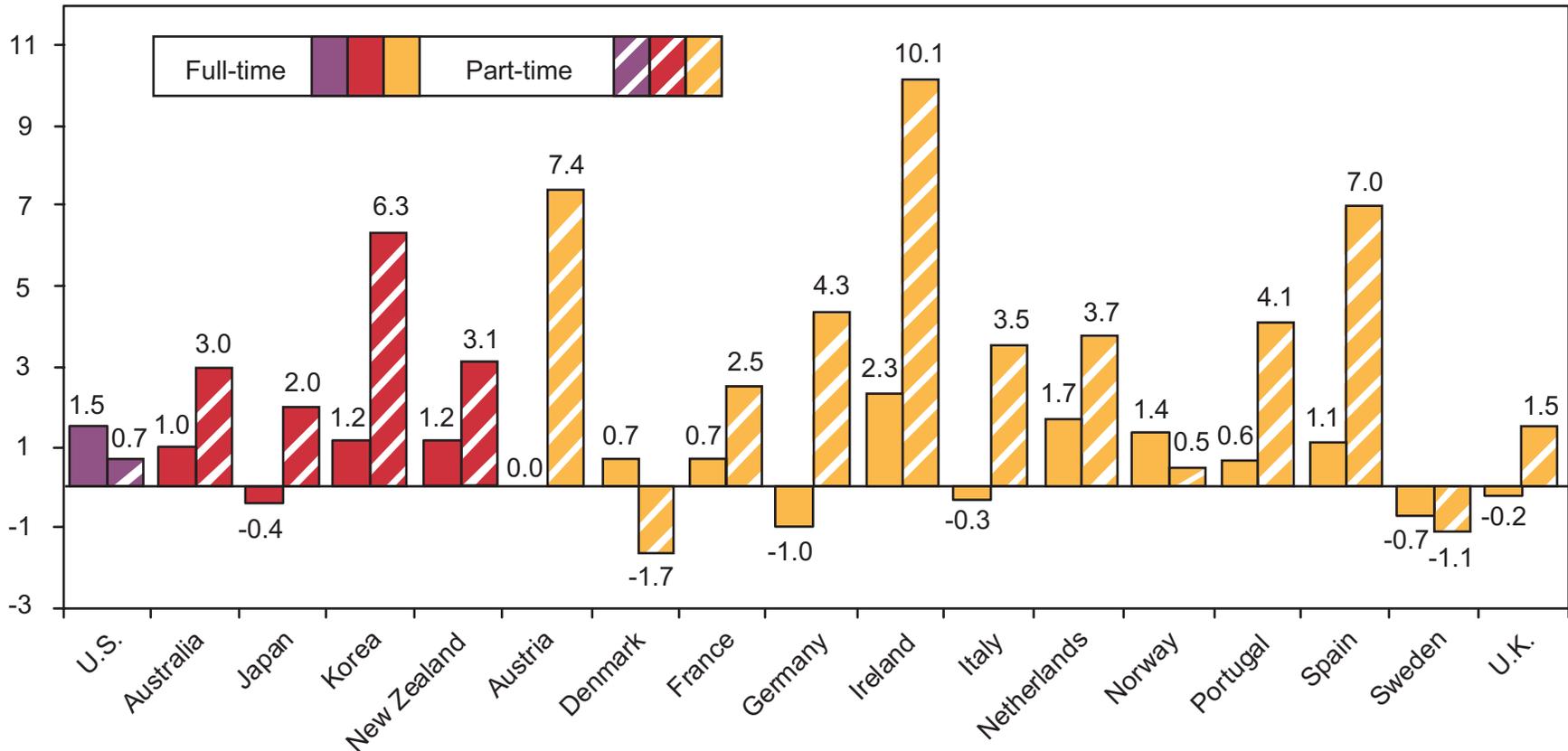
CHART

8

Average annual rates of growth in full-time and part-time employment, 1990-2000

- Only three countries, including the U.S., saw full-time job growth surpass part-time job growth. In most countries, part-time jobs were the main or sole source of job growth.
- Full-time job growth was strongest in Ireland, the Netherlands, the U.S., and Norway.

Percent



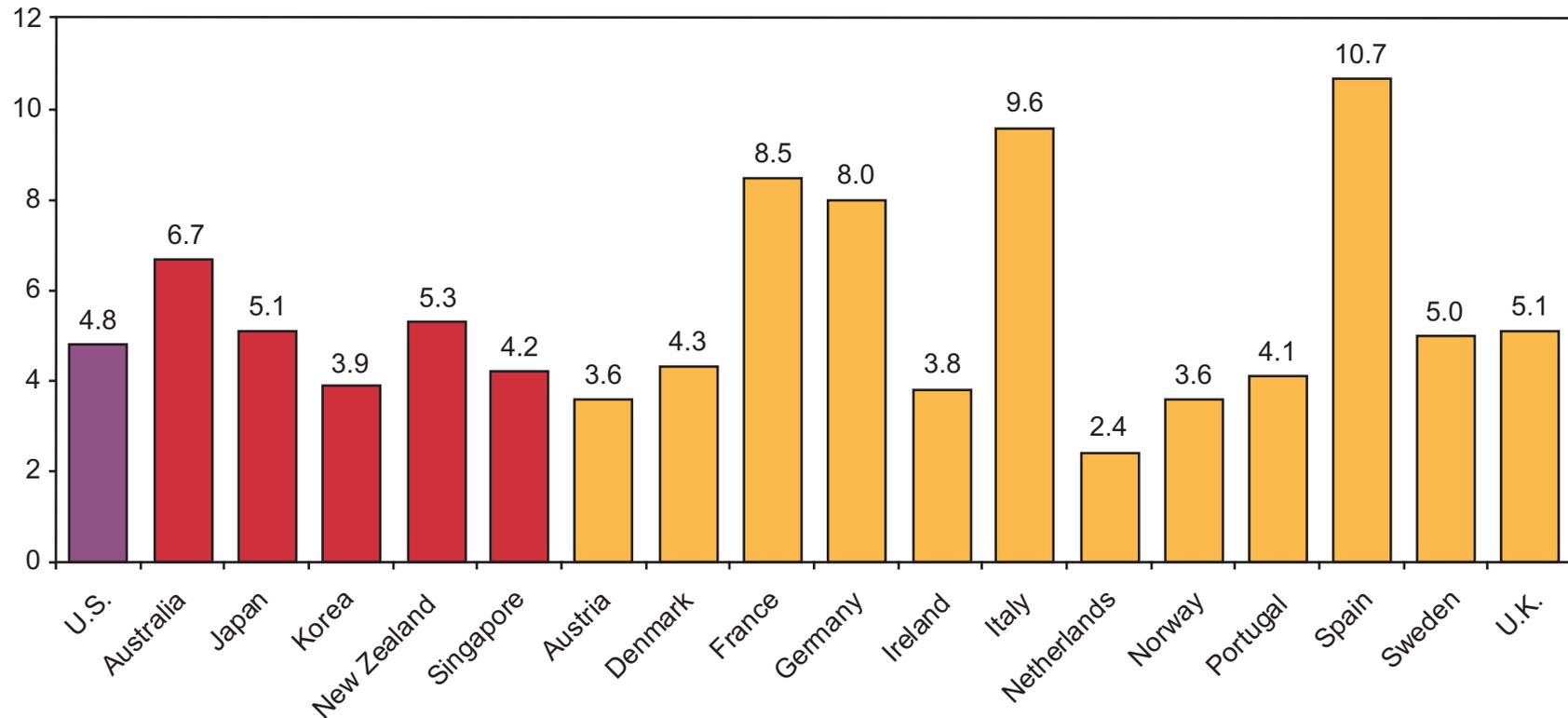
Note: 1991-2000 for Germany. 1990-1999 for Austria. U.S. data refer to employees only. Data for other countries refer to total employment.

Source: Organization for Economic Cooperation and Development.

CHART 9 Unemployment rates, 2001

- The larger European countries had higher unemployment rates than the U.S., while some of the smaller European countries – Austria, Ireland, the Netherlands, and Norway – had unemployment rates well below the U.S. rate.
- Among the Asian countries, Korea and Singapore had lower unemployment rates than the U.S.

Percent



Note: 1999 for Singapore.

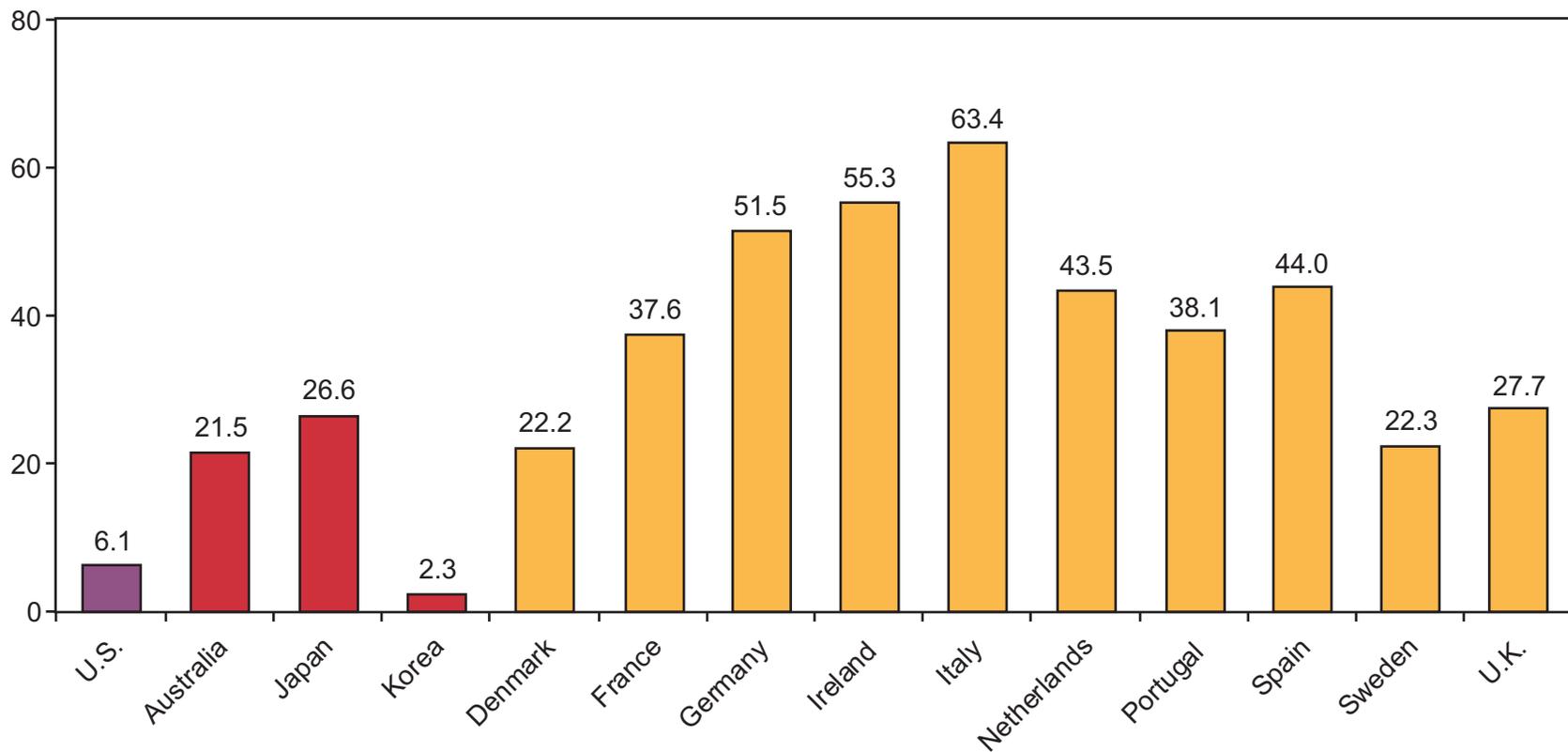
Source: Bureau of Labor Statistics, Organization for Economic Cooperation and Development, and International Labor Office.

CHART**10****Persons unemployed one year or longer, 2001**

as a percent of total unemployment

- Long-duration unemployment was least prevalent in the U.S. and Korea.
- Over half of the unemployed were without work for a year or longer in Germany, Ireland, and Italy.

Percent of the unemployed



Note: 2000 for Germany. 1999 for Ireland and the Netherlands.

Source: Organization for Economic Cooperation and Development.

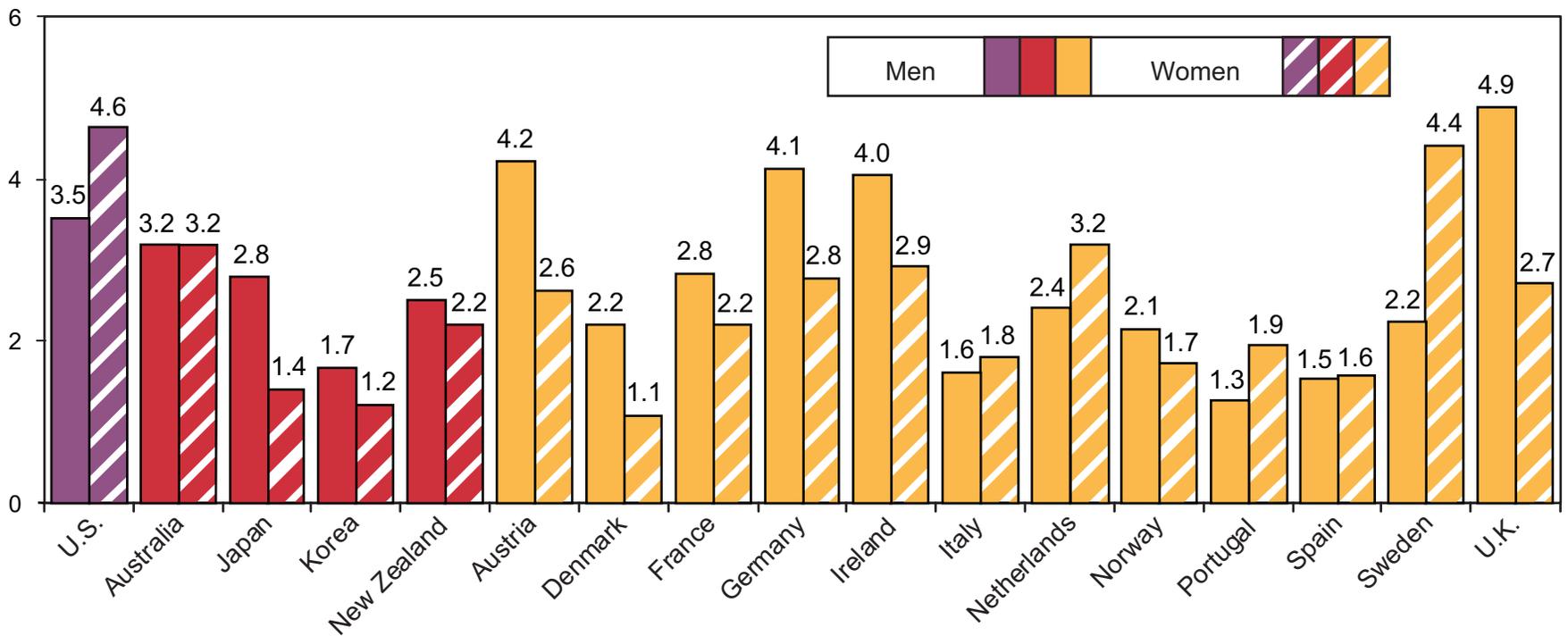
CHART

11

Ratio of unemployment rate of persons without high school degrees to that of persons with college or university degrees, 1999

- Unemployment rates were higher for those with less education. The connection between less schooling and the jobless rate was particularly strong for American and Swedish women and for Austrian, German, Irish, and U.K. men.
- In Korea, Italy, Portugal, and Spain, countries with lower GDP per capita, there were relatively small differences in the unemployment rates for those with lower versus higher educational attainment.

Ratio



Note: The unemployment rates used to calculate these ratios are for men and women ages 25-64.

Source: Organization for Economic Cooperation and Development.

Competitiveness Indicators for Manufacturing

(CHARTS 12-18)

Relative levels and changes in manufacturing hourly compensation costs, relative changes in manufacturing labor productivity and unit labor costs can be used to partially assess international competitiveness. Charts 12 and 13 compare the level and trends of hourly compensation costs for production workers in manufacturing. The data are adjusted to U.S. dollars at market exchange rates. Changes over time in compensation costs denominated in U.S. dollars reflect the underlying national wage and benefit trends measured in national currencies, as well as frequent and sometimes sharp changes in currency exchange rates. The hourly compensation figures in U.S. dollars provide comparative measures of employer labor costs; they do not provide inter-country comparisons of the purchasing power of worker incomes. Chart 14 depicts social insurance expenditures and other labor taxes as a percent of hourly compensation costs.

Charts 15-18 provide comparisons of the rates of growth of productivity, the composition of productivity growth in terms of changes in output and hours worked, and trends in unit labor costs. Unit labor costs are defined as the cost of labor compensation per unit of output. Changes in unit labor costs reflect the net effect of changes in hourly worker compensation and in labor productivity. Unit labor costs rise when compensation per hour rises faster than labor productivity. Conversely, if labor productivity rises faster than hourly compensation, unit labor costs decline.

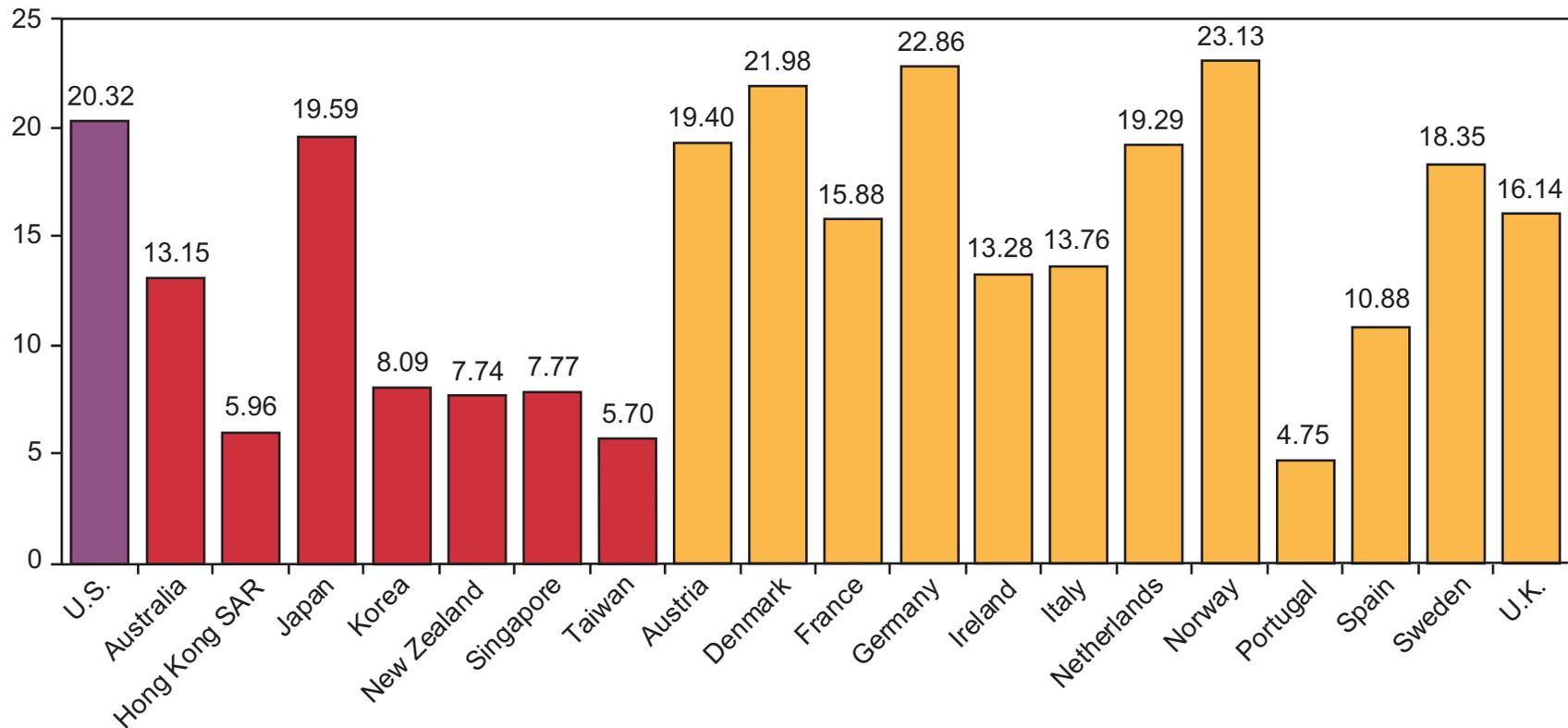
The compensation costs indicators provide the most extensive country coverage in this chartbook. Twenty countries are shown on those charts. For productivity, the coverage was limited to 11 countries.

CHART**12****Hourly compensation costs, 2001**

for production workers in manufacturing in U.S. dollars

- Other than Australia and Japan, all the Asian economies had hourly compensation costs well under \$10.
- Only three countries—Denmark, Germany, and Norway—had higher hourly compensation costs than the U.S.

U.S. Dollars



Note: Hong Kong SAR stands for Hong Kong Special Administrative Region of China. 2000 for Portugal.

Source: Bureau of Labor Statistics.

CHART

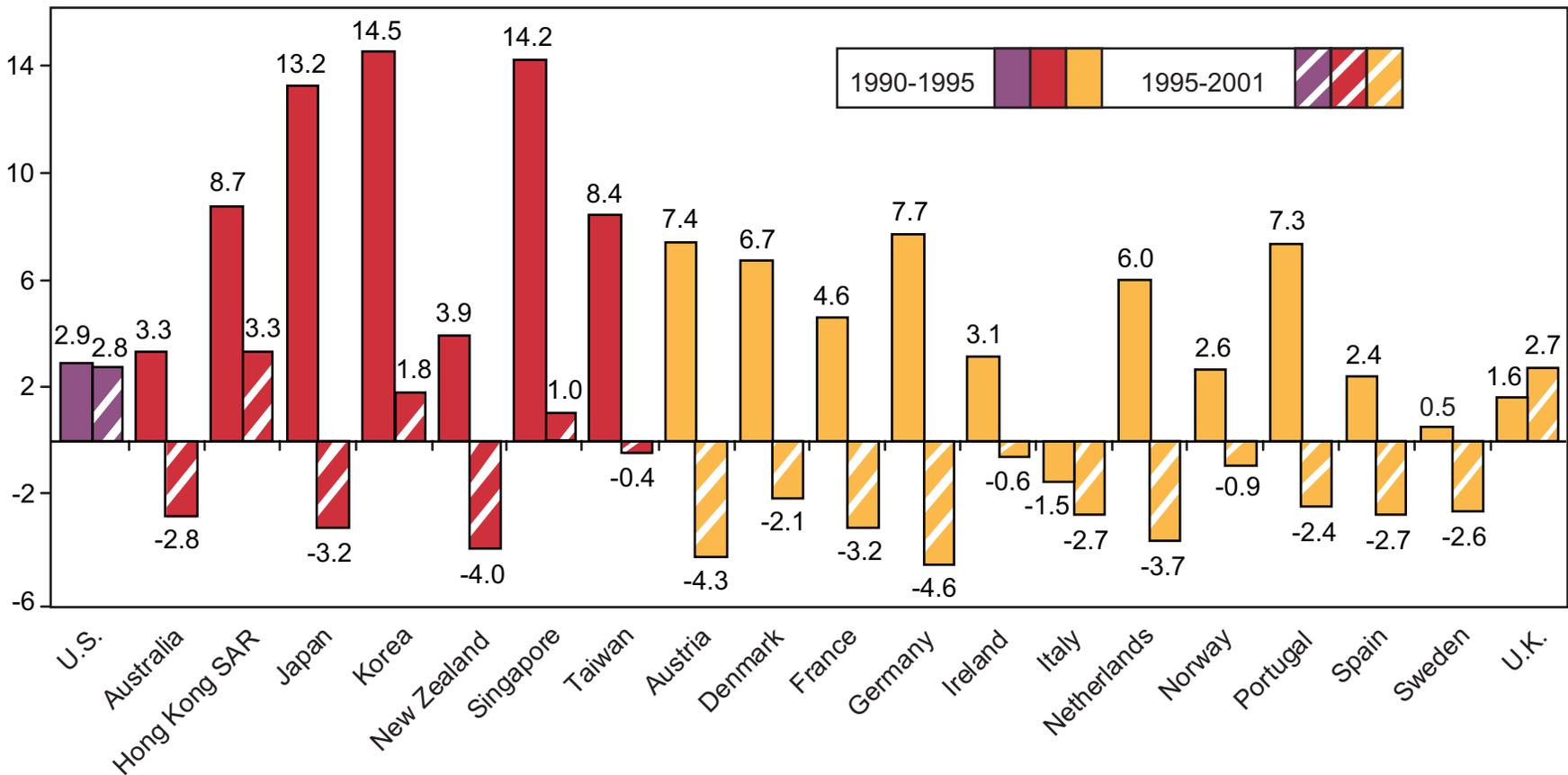
13

Average annual rates of growth in hourly compensation costs, 1990-1995 and 1995-2001

for production workers in manufacturing in U.S. dollars

- U.S. hourly compensation costs grew at about the same pace during the two periods.
- Hourly compensation costs in U.S. dollars grew in all the foreign economies (except Italy) during the former period and declined in all but four during 1995-2001. The declines in the latter period were related to the revival in the strength of the U.S. dollar.

Percent



Note: Hong Kong SAR stands for Hong Kong Special Administrative Region of China. Germany refers to the former West Germany. Data for Portugal are for 1990-1995 and 1995-2000.

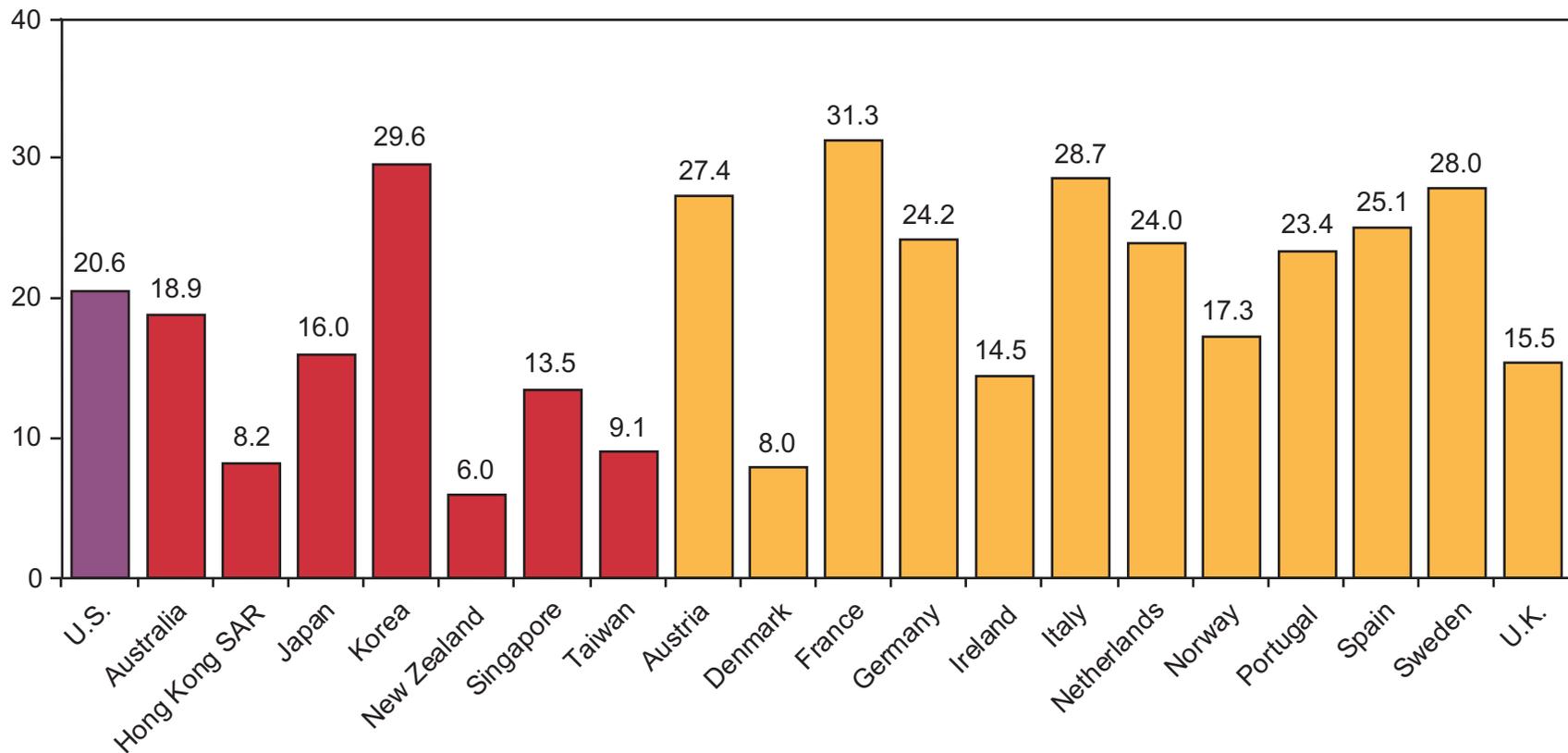
Source: Bureau of Labor Statistics.

CHART**14****Social insurance expenditures and other labor taxes as a percent of hourly compensation costs, 2001**

for production workers in manufacturing

- U.S social insurance expenditures comprised a lower percentage of hourly compensation costs than in 8 of 12 European countries.
- Among the Asian economies, Hong Kong SAR, New Zealand, and Taiwan had relatively low proportions of social insurance expenditures, while Korea's proportion was relatively high.

Percent



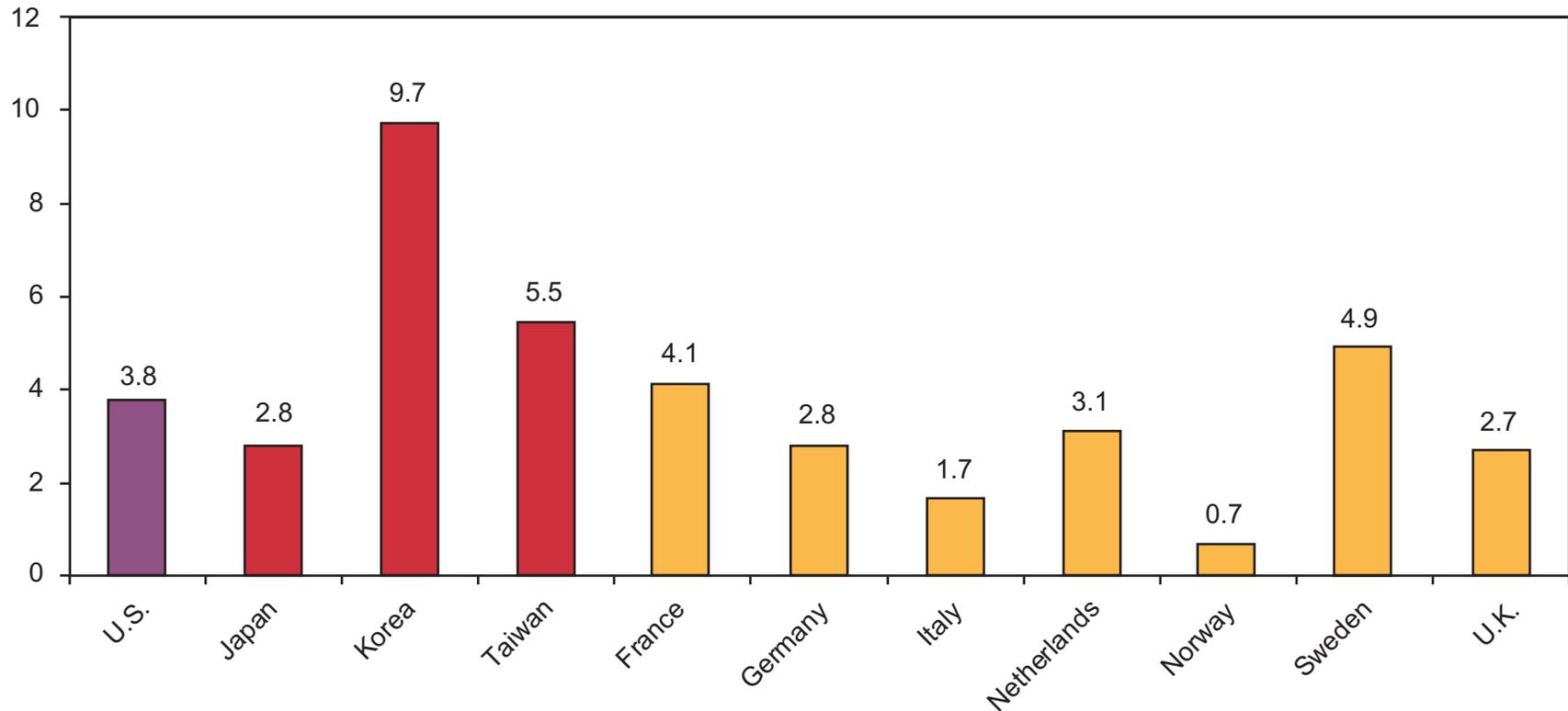
Note: Hong Kong SAR stands for Hong Kong Special Administrative Region of China. 2000 for Portugal.

Source: Bureau of Labor Statistics.

CHART**15****Average annual rates of growth in manufacturing productivity, 1990-2001**

- Korea and Taiwan had the largest increases in manufacturing labor productivity.
- The U.S. increase was higher than in Japan and in five of the seven European economies.

Percent



Note: 1990-2000 for the Netherlands.

Source: Bureau of Labor Statistics.

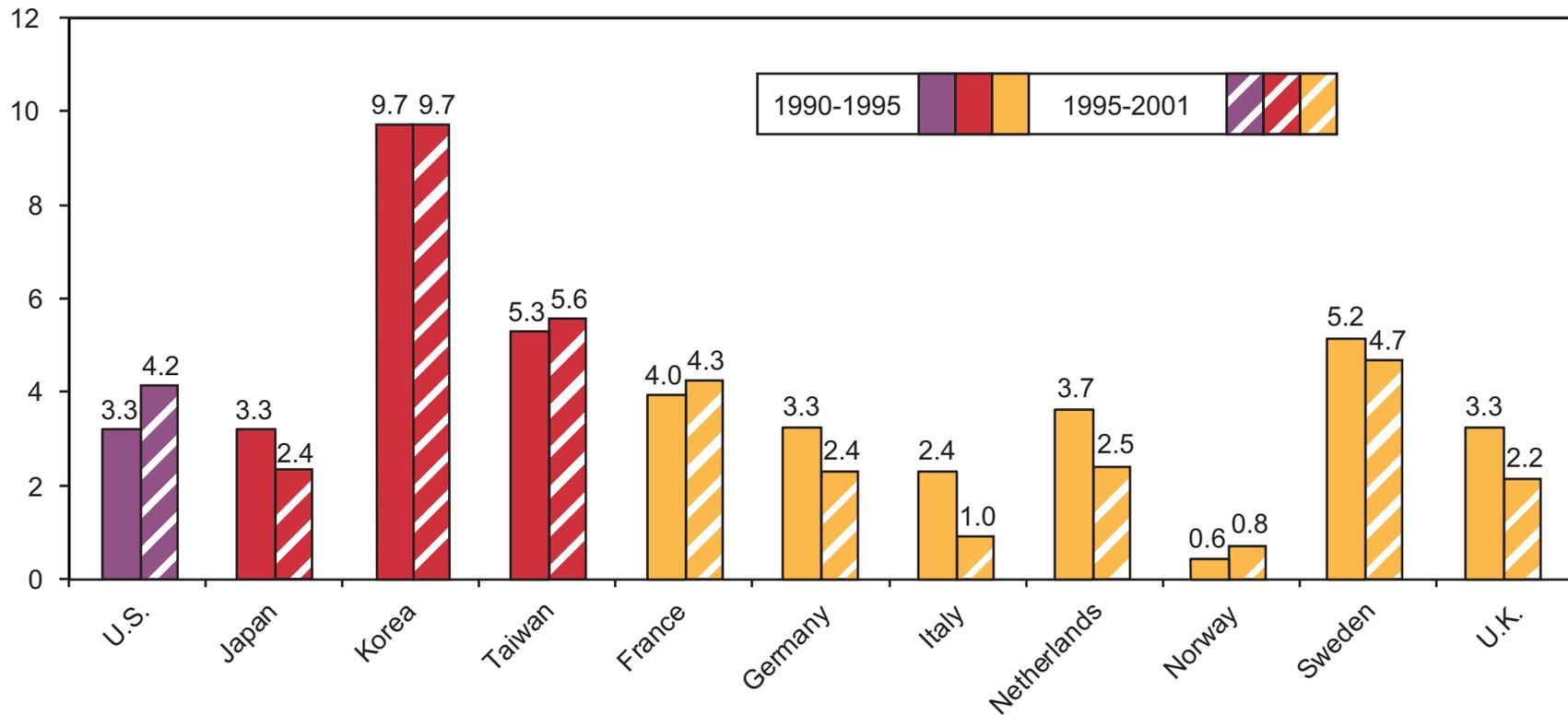
CHART

16

Average annual rates of growth in manufacturing productivity, 1990-1995 and 1995-2001

- Comparing manufacturing labor productivity growth from 1990-1995 to 1995-2001, three economies, in addition to the U.S., had a productivity growth “speed-up.”
- Six economies saw a productivity growth “slow-down.”

Percent



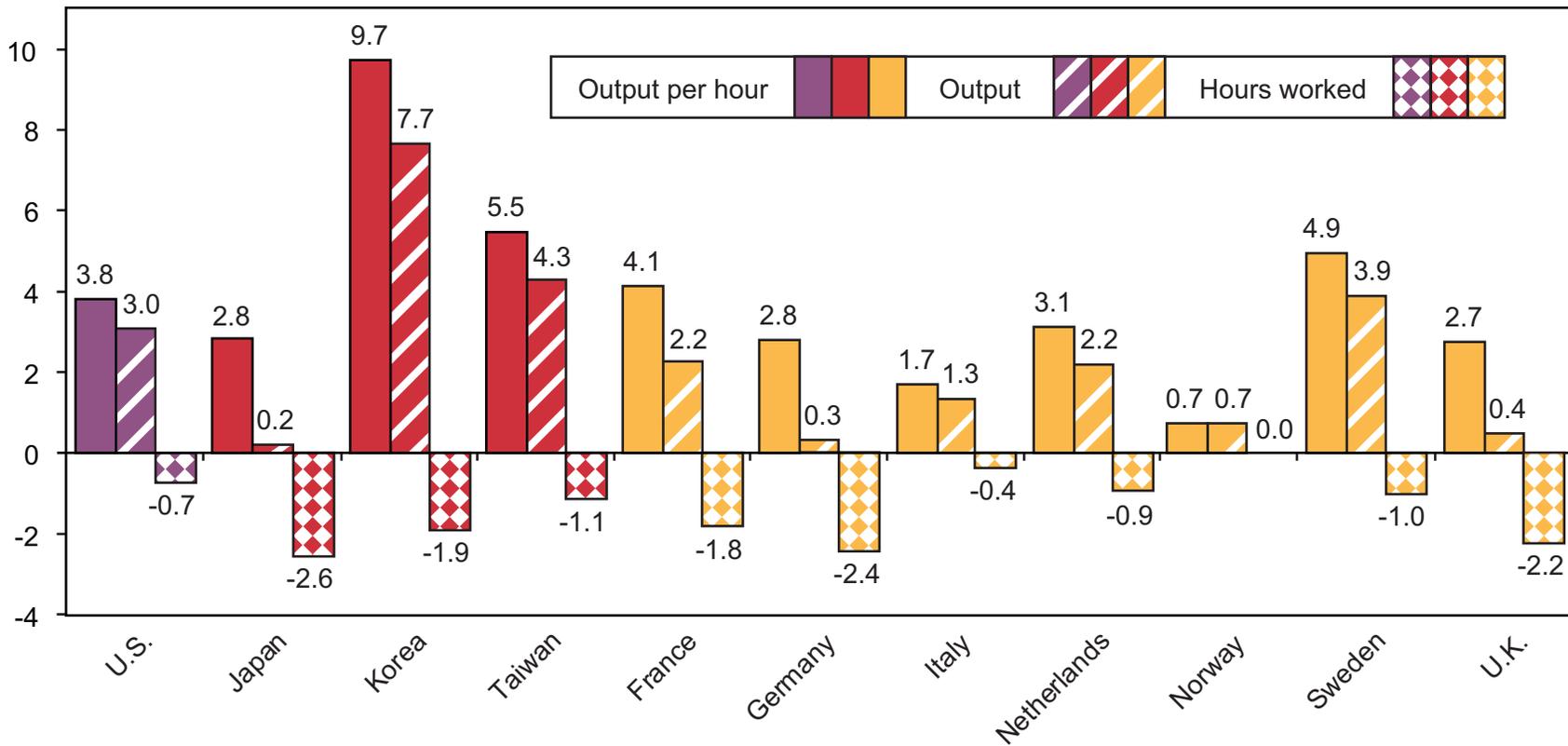
Note: 1995-2000 for the Netherlands.

Source: Bureau of Labor Statistics.

CHART 17 Average annual rates of growth in manufacturing productivity, output, and hours worked, 1990-2001

- Manufacturing output increases were highest in Korea and Taiwan; they were lowest in Japan, Germany, and the U.K.
- The U.S. showed the third smallest decline in hours worked; compared to most other countries, the increase in U.S. manufacturing productivity was less dependent on reducing hours worked.

Percent



Note: 1990-2000 for the Netherlands.

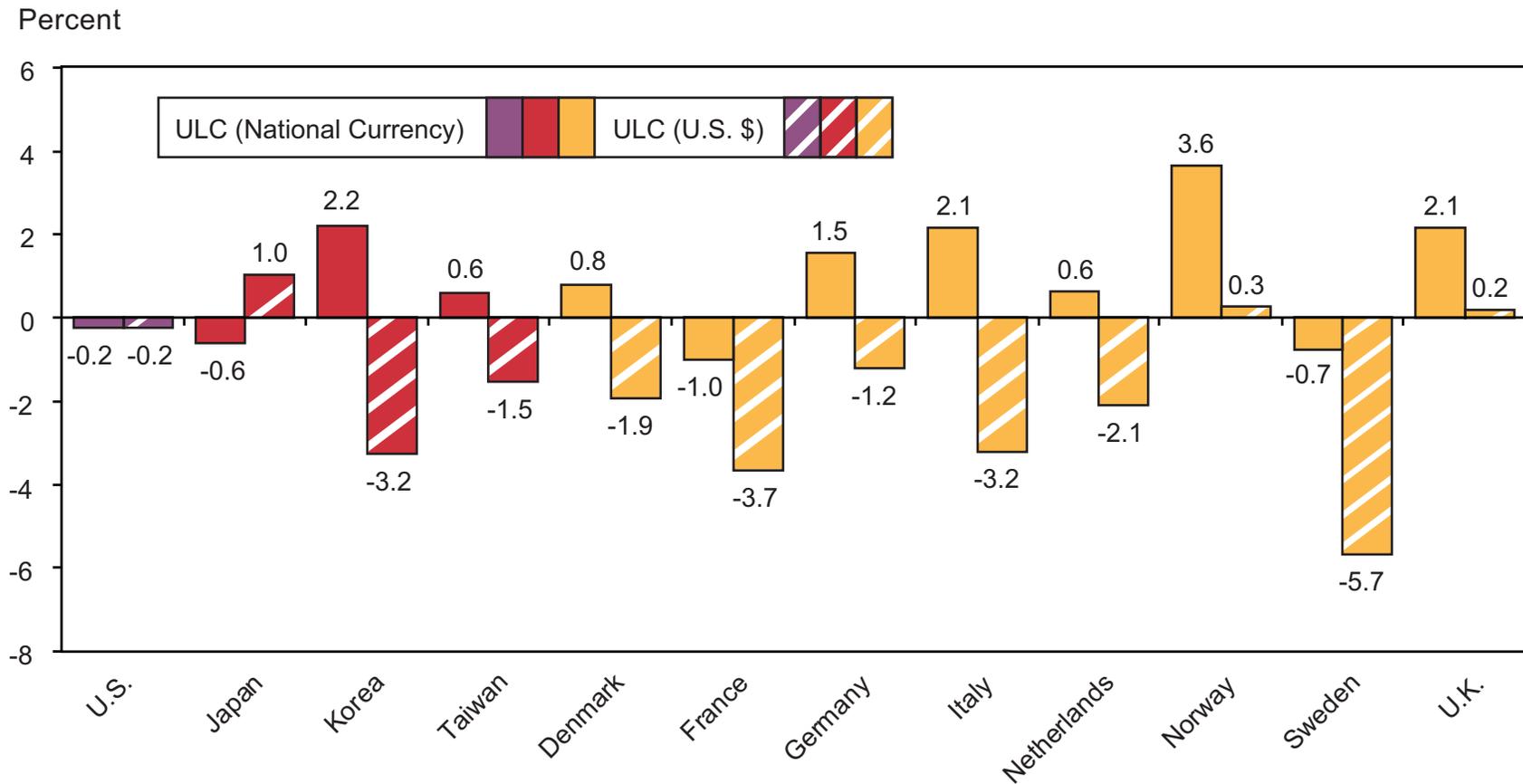
Source: Bureau of Labor Statistics.

CHART

18

Average annual rates of growth in manufacturing unit labor costs, 1990-2001 in national currency units and in U.S. dollars

- Manufacturing unit labor costs were little changed in the U.S. Measured in national currencies, manufacturing unit labor costs (ULC) increased in most of the foreign economies.
- Revalued in U.S. dollars, unit labor costs declined in all but three foreign economies.



Note: 1990-2000 for the Netherlands.

Source: Bureau of Labor Statistics.

Other Indicators

(CHARTS 19-22)

Drawn from data published by the Organization for Economic Cooperation and Development (OECD), these indicators provide a linkage between policy and the labor market. The following policy issues are broadly compared: working-time restrictions through a measure of annual hours of work (chart 19); expenditures on labor market programs (chart 20); the extent of labor and product market regulations (chart 21); and the level of taxation on labor (chart 22).

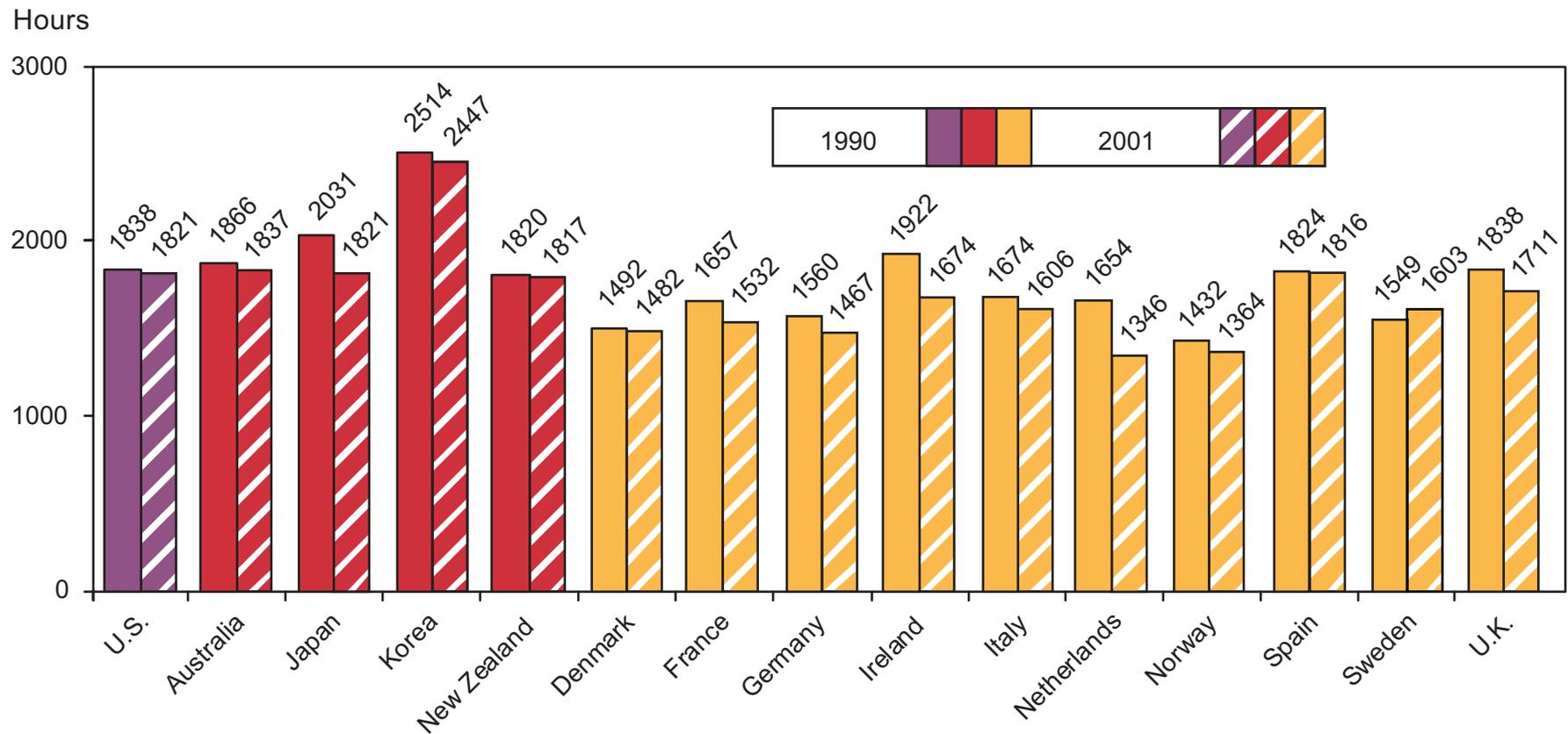
For annual hours of work, data judged as suitable were available for 15 countries. Sixteen countries were covered in the other charts in this section.

CHART

19

Annual hours worked per employed person, 1990 and 2001

- In 2001, annual hours worked in Europe were lower than in the U.S. and the Asian economies.
- Ireland and the Netherlands, followed by France and the U.K., experienced the largest reductions in annual hours worked.



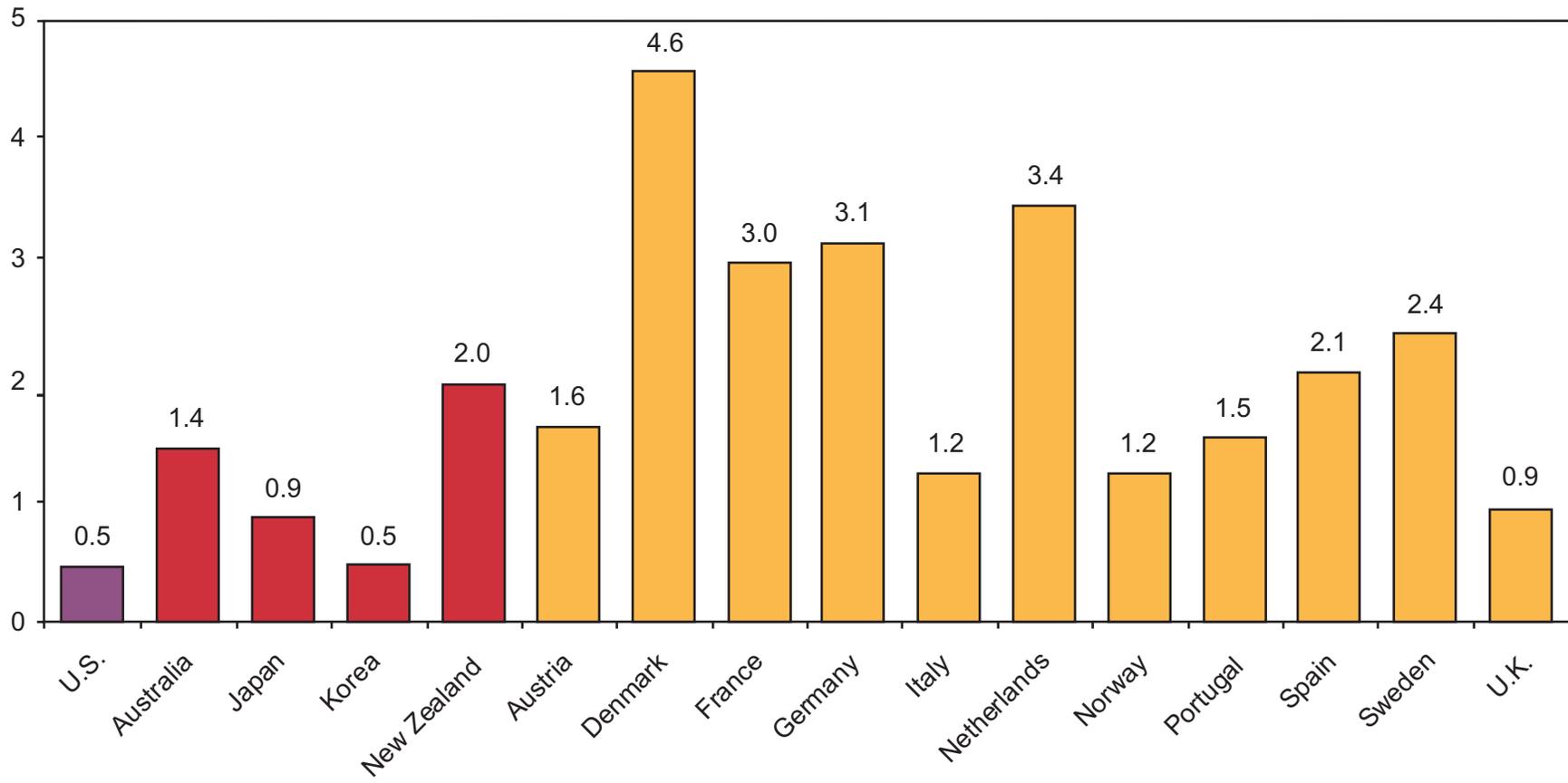
Note: 2000 for Japan. 1991 for Germany. Korean data refer to employees in private industry and services. Data per job for Australia, France, Norway, and Sweden.

Source: Organization for Economic Cooperation and Development.

CHART**20****Public expenditures on labor market programs as a percent of GDP, selected years 1999-2001**

- The U.S. and Korea spent relatively smaller proportions of GDP on labor market programs.
- The highest relative expenditures were by Denmark, the Netherlands, Germany, and France.

Percent



Source: Organization for Economic Cooperation and Development.

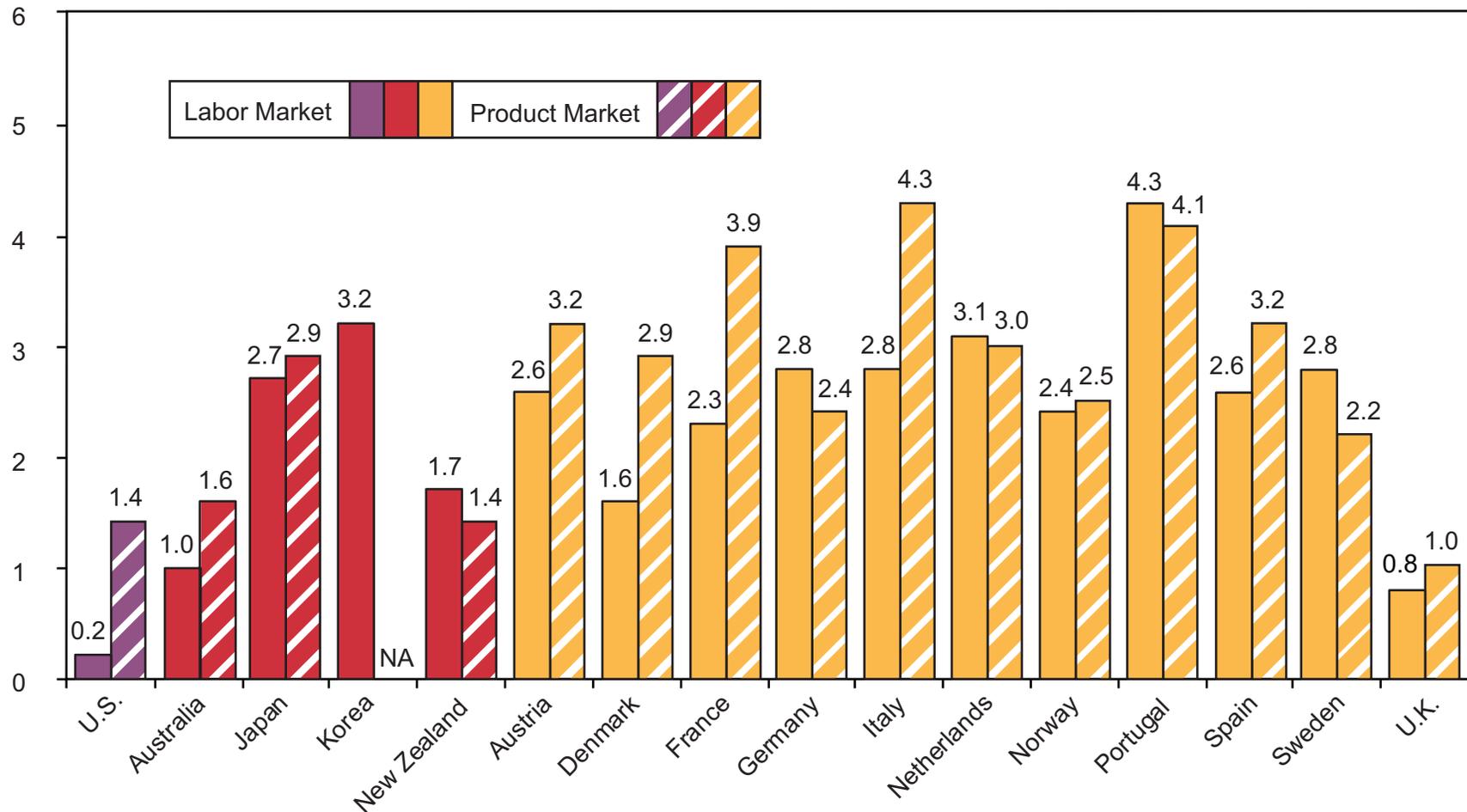
CHART

21

Labor and product market flexibility measures, late 1990s

- The U.S. and the U.K. were the least regulated countries.
- Portugal and Korea were characterized by inflexible labor markets, followed by the Netherlands, Germany, Italy, and Sweden; inflexible product markets were most pronounced in Italy, Portugal, and France.

Scale 0-6 from least to most restrictive



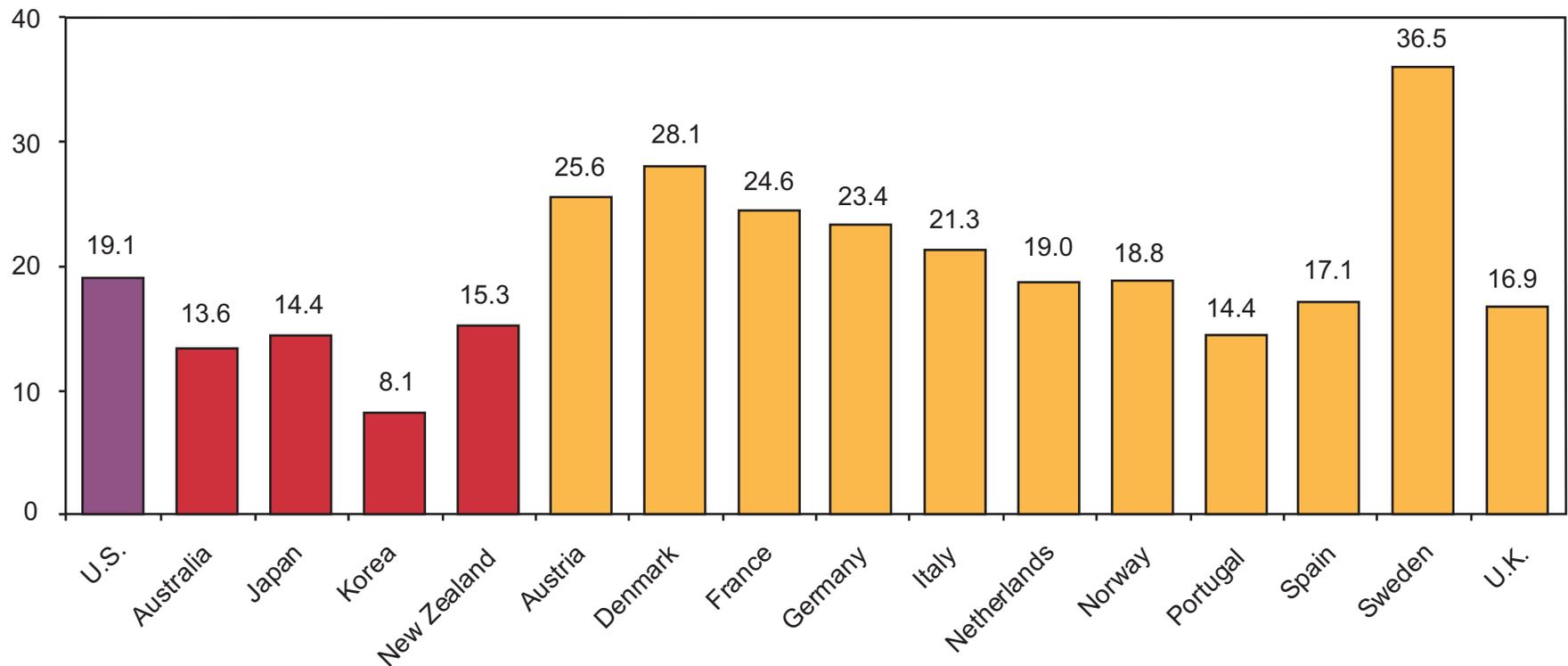
Note: NA = not available.

Source: Organization for Economic Cooperation and Development.

CHART 22 Total taxes on labor as a percent of GDP, 2000

- As a share of GDP, taxes on labor (personal income, all contributions to government social security funds, and payroll taxes) were lower in the U.S. than in most European countries but higher than in all of the Asian countries.
- The tax burden on labor was relatively high in Sweden and Denmark, and low in Asian countries, especially Korea.

Percent



Source: Organization for Economic Cooperation and Development.

Sources and Methods

Introduction

This chartbook is partially based upon the output of the Bureau of Labor Statistics (BLS) program of international comparisons of labor force, compensation, and productivity. In order to increase country and indicator coverage, the BLS data are supplemented by data from the Organization for Economic Cooperation and Development (OECD) and other organizations.

BLS adjusts foreign statistics to a common conceptual framework, thereby aiding users in making meaningful international comparisons. Summary descriptions of the BLS comparative series are provided below. More detailed information can be found in the source documents listed, which are available on the BLS foreign labor statistics website at <http://www.bls.gov/fls/>. The BLS publications and releases also are available free of charge by contacting the Division of Foreign Labor Statistics, 2 Massachusetts Avenue, NE, Room 2150, Washington, D.C. 20212-0001, phone (202) 691-5654, fax (202) 691-5679.

The June 2002 issue of the *Monthly Labor Review* contains four articles providing historical perspectives on the BLS international comparisons programs. These articles may be accessed from the website listed above by clicking on “publications and other documentation.”

In order to increase country coverage for some of the labor force, employment, and unemployment charts, the BLS

data are supplemented by data mainly from the OECD, but also from the International Labor Organization (ILO) and the Singapore Department of Statistics. The data from these alternative sources are judged reasonably comparable with the BLS series.

In order to provide other indicators of interest, 10 of the charts (charts 1, 2, 5, 8, 10, 11, and 19-22) are based solely on statistics compiled by other organizations, mainly the OECD, but also the World Bank, the International Monetary Fund (IMF), and the United Nations. Discussion of the data from the non-BLS sources is included below. Although some adjustments may have been made by the source organizations to enhance comparability, these data generally are not considered fully comparable across countries. Where applicable, some caveats concerning comparability are noted.

The charts on hourly compensation and productivity (charts 12-18) have not been supplemented by other sources. All the data charted are from the BLS series for these indicators. Country coverage varies by indicator. Twenty countries or economies appear on the hourly compensation charts (charts 12-14), while eleven countries or economies are included on the productivity and unit labor costs charts (charts 15-18). Coverage in the remaining charts varies from 14 to 19 countries or economies. It should be noted that some countries for which data are available are not included on the charts for analytical or presentation purposes. Ten countries appear on all charts: U.S., Japan,

Korea, France, Germany, Italy, the Netherlands, Norway, Sweden, and the U.K.

In most cases, 2001 is the latest year that data are available for the charts. In some cases, however, 1999 or 2000 is the latest year. All data are either annual averages or mid-year estimates, unless otherwise specified.

There are some breaks in the historical continuity of labor force and employment data for trends from 1990 onward. The nature of the breaks is documented in the source publications. The breaks generally do not substantially affect the trends depicted.

For Germany, some modifications are made for 1990-2001 trends because published data for 1990 relate to the former West Germany, whereas data for later years refer to Germany after unification. In some instances, the 1990 data are adjusted; in other cases, 1991 data are used instead for Germany so as not to distort the trend.

In the descriptions that follow, some charts are discussed as a group, while others warrant individual treatment.

GDP per capita (charts 1 and 2)

GDP per capita converted at PPP rates (chart 1). A country's **GDP** represents the sum of value added by all producers in that country. Value added is the value of the

gross output of producers less the value of intermediate goods and services used in production. GDP per capita is frequently used as a measure of a country's overall wealth.

Purchasing Power Parities (PPP) are currency conversion rates that allow output in different currency units to be expressed in a common unit of value. A PPP is the ratio between the number of units of a country's currency and the number of dollars required to purchase an *equivalent* basket of goods and services within each respective country.

The comparisons shown in chart 1 are based on data published by the World Bank. The World Bank published estimates of **Gross National Income** (GNI) per capita by country, for the year 2000. For each country, BLS calculated the GDP per capita in U.S. dollars, converted at PPP rates, by multiplying the reported GNI per capita by the corresponding GDP/GNI ratio. GNI measures the total domestic and foreign value added claimed by the residents of a country. GNI comprises GDP plus net receipts of employee compensation and property income from nonresident sources. GNI may be larger or smaller than GDP.

Source: The World Bank, *World Development Indicators*, Washington D.C., 2000. Tables 1.1 and 4.2.

Rates of growth in real GDP per capita (chart 2). **Real GDP** is GDP that has been adjusted for overall price changes over time, in order to remove the effects of inflation.

Change in real GDP per capita over time is the result of changes in both a country's real GDP and in its population. For chart 2, the estimates of real GDP are taken from the IMF. The population estimates are from the United Nations. For each country, BLS calculated the average annual growth rate of GDP per capita between 1990 and 2000, by combining the growth rate of real GDP with the growth rate of the population. The rates of change are based on the compound rate method.

Sources: (1) Real GDP: IMF, *International Financial Statistics*, Washington, D.C., July 2002, for the GDP volume index for 2000. The corresponding GDP volume index for 1990 is from the IMF's *Yearbook of International Financial Statistics*, 2001. (2) Population: Statistical Division of the United Nations Economic and Social Affairs Department, *Monthly Bulletin of Statistics*, New York, May 2001 and May 2002, table 1.

Labor force, employment, and unemployment (charts 3, 4, 6, 7, 9)

Charts 3-11 all depict aspects of the labor force. Charts 3, 4, 6, 7, and 9 contain BLS comparative data supplemented by data from the OECD, the ILO, and the Singapore Department of Statistics. On the other hand, charts 5, 8, 10, and 11 are derived solely from OECD data and are discussed in the next section.

BLS comparative measures of the labor force, employment, unemployment, and related indicators are used for the

U.S., Australia, Japan, France, Germany, Italy, the Netherlands, Sweden, and the U.K. Other organizations provided the data for Korea, New Zealand, Singapore, Austria, Denmark, Ireland, Norway, Portugal, and Spain.

In the BLS comparisons program, adjustments are made in each country's published data, if necessary, to provide measures approximately consistent with U.S. definitions. The data are adjusted to the U.S. concepts used in the Current Population Survey (CPS), the official source of U.S. labor force data. BLS employs data from several sources, including data obtained by special request from the central statistical offices of the foreign countries, to adjust the data. Further information on the nature of the adjustments for each country can be found in the BLS source document cited at the end of this section.

The **labor force** is the sum of the employed plus the unemployed; and the **unemployment rate** is the ratio of the unemployed to the labor force. In the U.S., the **unemployed** are those not working but available for work in the reference week, and actively seeking work in the past 4 weeks. Those persons waiting to be recalled from layoff need not be seeking work to be classified as unemployed. The **employed** are those persons who during the reference week did work for at least 1 hour as paid employees, worked in their own business, profession, or on their own farm, or worked 15 hours or more as unpaid workers in an enterprise operated by a family member. Those temporarily absent from work but who had jobs or businesses to return to are also counted as employed. The **labor force**

participation rate is the ratio of the labor force to the population of working age (ages 16 and over in the U.S. and ages 15 or 16 and over in the other countries); the **employment-to-population ratio** is the ratio of the employed to the population of working age.

The BLS data are supplemented in charts 3, 4, 6, 7, and 9 with data mainly from the OECD; data for Singapore are from the ILO and the Singapore Department of Statistics. The OECD and ILO data are generally from labor force surveys that are based on the ILO guidelines for measurement of the labor force, employment, and unemployment. These guidelines can be accessed at the following web site:

<http://www.ilo.org/public/english/120stat/res/ecacpop.htm>

The ILO guidelines have become standards for many countries; consequently, definitions used in labor force surveys are now broadly similar in outline and spirit if not in all of their details. The ILO guidelines facilitate cross-country comparisons because they serve to draw countries toward a common conceptual framework. The charted OECD and ILO data are reasonably comparable to the corresponding BLS data, although some adjustments for comparability that are made by BLS are not made by the OECD and ILO.

The OECD produces a series of standardized unemployment rates (SURs) that are adjusted to ILO concepts. In recent years, the OECD series yields unemployment rates virtually identical to the BLS

comparative series of unemployment rates for the countries in common to both programs. In addition, the ILO produces a series of “ILO-comparable” measures of unemployment rates that are adapted to ILO concepts.

The OECD and ILO comparative unemployment series has been used to broaden the coverage of the unemployment data on chart 9. The unemployment rates for the following countries were obtained from the OECD SURs: Korea, New Zealand, Austria, Denmark, Ireland, Norway, Portugal, and Spain. The ILO-comparable series is the source for the 1999 unemployment rate for Singapore, the latest available year from the ILO program. The other charted data for Singapore are from Singapore’s labor force surveys for 1991 and 2001. Data for 1990 were not available.

The OECD labor force and employment data have also been used to broaden the country coverage of charts 3, 4, 6, and 7. These data are not adjusted by the OECD for comparability to the extent that the unemployment rates (SURs) are adjusted; the OECD does not publish standardized labor force and employment figures.

For a full discussion of comparability issues regarding the BLS, OECD, and ILO series, see Constance Sorrentino, “International unemployment rates: how comparable are they?” in *Monthly Labor Review*, June 2000, pp. 3-20.

Sources: BLS, “Comparative Civilian Labor Force Statistics, Ten Countries, 1959-2001,” March 25, 2002; <<http://www.bls.gov/fls/>>; OECD, *Labor Force Statistics*, 1981-2001, Paris, 2002, Parts I and II;

Sophia Lawrence, “ILO-Comparable annual employment and unemployment estimates,” *Bulletin of Labor Statistics*, 2001-2, ILO, Geneva, 2001, table 1; and Singapore Department of Statistics, *Yearbook of Statistics Singapore*, May 2002, table 4.1.

Labor force, employment, and unemployment (charts 5, 8, 10, 11)

The charts discussed here are derived solely from OECD data sources. This is because the BLS labor force comparisons program does not provide indicators for participation rates by age (chart 5), full-time and part-time employment (chart 8), duration of unemployment (chart 10), and unemployment by educational attainment (chart 11).

Labor force participation rates by age (chart 5). The **participation rate for a given age group** is defined as the ratio between the total (or civilian) labor force for the age group divided by the total (or civilian) population for the age group. Two age groups are charted: youths (ages 15 or 16-24) and older workers (ages 55-64). For Italy, the latter grouping refers to ages 60-64. The data are generally derived from labor force surveys. The OECD has made no attempt to standardize these data to international definitions. International comparisons of these data must be made with caution, according to the OECD. In countries where young people are conscripted into the armed forces, their measured participation rates will differ

considerably according to whether the figures include or exclude the armed forces. Differences in the lower age limit also affect the comparability of the data.

Source: OECD, Employment Outlook, Paris, July 2002, table C, pp. 307-08.

Rates of growth in full-time and part-time employment (chart 8). The OECD has adjusted part-time and full-time employment to a common conceptual basis, insofar as possible. **Part-time employment** is defined as employment of persons usually working 30 or fewer hours per week in their main job. **Full-time employment** is defined as persons usually working over 30 hours per week in their main job. Data are limited to persons declaring usual hours worked.

Except for the U.S., the data relate to total employment. For the U.S., the data cover wage and salary employment only. This difference should not materially affect the comparisons, because paid workers account for more than 90 percent of total U.S. employment. The data are obtained from labor force surveys, and refer to persons 15 or 16 years of age or over, except for Norway and Sweden where they refer to persons aged 16-74 and 16-64, respectively.

The OECD was not able to obtain an adjusted series for Japan. Hence, Japan's data are not comparable to those of the other countries, for two reasons: (1) the Japanese data are based on "actual hours worked" rather than "usual hours worked," and (2) part-time employment in Japan is

defined as working fewer than 35 hours per week. Thus, the Japanese data should not be used for comparisons of the level of part-time and full-time work. They are used on chart 8 to track the broad trends in part-time and full-time work.

Source: OECD, Labor Market Statistics CD-Rom, Paris, 2001.

Persons unemployed one year or longer as a percent of total unemployment (chart 10). The OECD data on duration of unemployment represent the length of time that persons unemployed have been looking for work. The OECD data have not been standardized, but they are all from labor force surveys. The data refer to persons 15 or 16 years of age or over, except for Norway where they refer to persons aged 16-74 and Sweden where they refer to persons aged 16-64.

Source: OECD, Employment Outlook, Paris, July 2002, table G, p. 323.

Ratio of unemployment rate of persons without high school degrees to that of persons with college or university degrees (chart 11). Because educational systems vary widely across countries, the OECD has adopted a broad classification system based upon the International Standard Classification for Education (ISCED) developed by the United Nations Educational, Scientific, and Cultural Organization (UNESCO). The OECD has summarized the UNESCO categories into five **educational attainment** groupings that refer to completed education. The OECD grouping "below upper secondary" corresponds to "without high school

degrees;" the grouping "tertiary-type A and advanced research programs" corresponds to "with college or university degrees." The data on unemployment have not been standardized, but they are all from labor force surveys. The data refer to men and women 25-64 years of age.

Source: OECD, *Education at a Glance: OECD Indicators*, Paris, 2001, table E1.2, p. 274.

Hourly compensation costs for production workers in manufacturing (charts 12-14)

Charts 12-14 present data on comparative hourly compensation costs for manufacturing production workers in order to assess international differences in employer labor costs. Comparisons based on the more readily available average earnings statistics published by many countries can be very misleading. National definitions of average earnings differ considerably; average earnings do not include all items of labor compensation; and the omitted items of compensation frequently represent a large proportion of total compensation.

The compensation measures are computed in national currency units and are converted into U.S. dollars at prevailing commercial market currency exchange rates. The foreign currency exchange rates used in the calculations are the average daily exchange rates for the

reference period. They are appropriate measures for comparing levels of employer labor costs. They do not indicate relative living standards of workers or the purchasing power of their income. Prices of goods and services vary greatly among countries, and commercial market exchange rates are not reliable indicators of relative differences in prices.

Hourly compensation costs include (1) hourly direct pay and (2) employer social insurance expenditures and other labor taxes. Hourly direct pay includes all payments made directly to the worker, before payroll deductions of any kind, consisting of (a) pay for time worked (basic time and piece rates plus overtime premiums, shift differentials, other premiums and bonuses paid regularly each pay period, and cost-of-living adjustments) and (b) other direct pay (pay for time not worked (vacations, holidays, and other leave, except sick leave), seasonal or irregular bonuses and other special payments, selected social allowances, and the cost of payments in kind). **Social insurance expenditures and other labor taxes** include (a) employer expenditures for legally required insurance programs and contractual and private benefit plans (retirement and disability pensions, health insurance, income guarantee insurance and sick leave, life and accident insurance, occupational injury and illness compensation, unemployment insurance, and family allowances) and, for some countries, (b) other labor taxes (other taxes on payrolls or employment (or reductions to reflect subsidies), even if they do not finance programs that

directly benefit workers, because such taxes are regarded as labor costs). For consistency, compensation is measured on an hours-worked basis for every country.

The BLS definition of hourly compensation costs is not the same as the ILO definition of total labor costs. Hourly compensation costs do not include all items of labor costs. The costs of recruitment, employee training, and plant facilities and services—such as cafeterias and medical clinics—are not included because data are not available for most countries. The labor costs not included account for no more than 4 percent of total labor costs in any country for which the data are available.

Production workers generally include those employees who are engaged in fabricating, assembly, and related activities; material handling, warehousing, and shipping; maintenance and repair; janitorial and guard services; auxiliary production (for example, power plants); and other services closely related to the above activities. Working supervisors are generally included; apprentices and other trainees are generally excluded.

Total compensation is computed by adjusting each country's average earnings series for items of direct pay not included in earnings and for employer expenditures for legally required insurance, contractual and private benefit plans, and other labor taxes. For the U.S. and other countries that measure earnings on an hours-paid basis, the figures are also adjusted in order to approximate compensation per hour worked. Earnings statistics are

obtained from surveys of employment, hours, and earnings or from surveys or censuses of manufactures.

Adjustment factors are obtained from periodic labor cost surveys and interpolated or projected to non-survey years on the basis of other information for most countries. The information used includes tabulations of employer social security contribution rates provided by the International Social Security Association, information on contractual and legislated fringe benefit changes from ILO and national labor bulletins, and statistical series on indirect labor costs. For other countries, adjustment factors are obtained from surveys or censuses of manufactures or from reports on fringe-benefit systems and social security. For the U.S., the adjustment factors are special calculations for international comparisons based on data from several surveys.

The statistics are also adjusted, where necessary, to account for major differences in worker coverage; differences in industrial classification systems; and changes over time in survey coverage, sample benchmarks, or frequency of surveys. Nevertheless, some differences in industrial coverage remain, and in many countries other than the U.S. the data exclude very small establishments (less than 5 employees in Japan and less than 10 employees in most other countries). For the U.S., the methods used, as well as the results, differ somewhat from those for other BLS series on U.S. compensation costs.

Hourly compensation costs are converted to U.S. dollars using the average daily exchange rate for the reference

period. The exchange rates used are prevailing commercial market exchange rates as published by either the U.S. Federal Reserve Board or the IMF.

Source: "International Comparisons of Hourly Compensation Costs of Production Workers in Manufacturing," September 27, 2002, Department of Labor News Release USDL 02-549, <<http://www.bls.gov/fls/>>.

Manufacturing productivity and unit labor costs (Charts 15-18)

The **productivity** estimates shown in charts 15-17 refer to labor productivity, defined as real output per hour worked. It is based on the manufacturing output produced in each country and on the total labor input in the form of hours worked. **Output** is defined as the real (deflated) GDP produced in the manufacturing sector of the economy. GDP has been defined previously (see chart 1 discussion). The output data are published as part of each country's national accounts.

Hours worked in manufacturing includes the hours of all persons engaged in the manufacturing process, including the self-employed. For some countries, the data on the number of hours worked in manufacturing are also published with the national accounts. For other countries, BLS constructs its own estimates of aggregate hours worked, multiplying employment figures published with

the national accounts by estimates of average annual hours worked.

For chart 18, manufacturing **unit labor costs** are defined as the cost of labor compensation per unit of output. Because labor costs are frequently a major factor in total production costs, changes in unit labor costs affect the prices of manufactured products.

Labor compensation includes employer expenditures for legally required insurance programs and contractual and private benefit plans, in addition to all payments made in cash or in kind directly to employees. Data on labor compensation are usually taken from the countries' national accounts. When data for the self-employed are not available, total compensation is estimated by assuming the same hourly compensation for self-employed and employees.

Changes in a country's unit labor costs expressed in U.S. dollars are estimated by combining changes in the unit labor cost expressed in each nation's currency with changes in the exchange rate of the country's currency against the U.S. dollar.

Source: "International Comparisons of Manufacturing Productivity and Unit Labor Cost Trends, 2001," September 26, 2002, Department of Labor News Release USDL 02-543, <<http://www.bls.gov/fls/>>.

Annual hours worked per employed person (chart 19)

Annual hours worked are affected by overtime regulations and restrictions on the weekly hours of full-time workers, which have been imposed by governments in some of the countries depicted in chart 19, such as Japan and France. Annual hours worked are also influenced by factors such as the proportion of part-time workers and the number of self-employed persons who may work long hours; these factors vary among countries. **Average annual hours actually worked** should include hours actually worked during normal periods of work; time worked in addition to the normal periods and generally paid at higher rates; time spent at place of work in preparation, repair, and record keeping; time spent at place of work on stand-by basis or under a guaranteed work contract; and time corresponding to short rest periods, including tea or coffee breaks. They should exclude hours paid for but not worked, such as annual leave; public holidays, paid sick leave, meal breaks, and time spent on travel between home and work. The foregoing describes the ILO's standard definition for hours actually worked. Comparative data on annual hours worked based precisely on this definition are not available. The comparisons shown in chart 19 are based on data published by the OECD on annual hours actually worked per person employed, which include some adjustments towards the above definition. They cover all persons in employment, including both full-time and part-time

workers. The OECD states that the data are intended primarily for comparisons of trends over time. Comparisons of the average annual hours *levels* for a given year must be made with caution because of differences in data sources. Data sources include labor force surveys, establishment surveys, and composite estimates from national accounts or labor market accounts.

The data are from monthly or continuous labor force surveys for New Zealand, Spain, and the U.K. They are from the Spring European Union Labor Force Survey, adjusted to an annual basis by the OECD, for Denmark, Ireland, Italy, and the Netherlands. The OECD adjusts for hours not worked due to annual leave and public holidays and for the underreporting of hours lost due to illness and maternity leave. For Korea, data are from an establishment survey and cover employees only.

The annual hours worked data are composite estimates for the U.S., Japan, France, Germany, Norway, and Sweden. They are per job rather than per person employed for Australia, France, Norway, and Sweden; however, the number of persons holding two jobs is small in those countries.

Data for the U.S. are OECD estimates. They are based on unpublished BLS statistics of annual hours worked per job estimated on the basis of the Current Employment Statistics Survey, Hours of Work Survey, and the Current Population Survey. OECD adjusts these unpublished BLS statistics for multiple jobholding using data from the Current Population

Survey to produce estimates of annual hours worked per person employed. Data for most of the countries charted are on a per person employed basis.

Sources: OECD, *Employment Outlook*, Paris, July 2002, table F, p. 320; *Trends in Working Hours in OECD Countries* (Labour Market and Social Policy Occasional Paper No. 45), March, 30, 2001.

Public expenditures on labor market programs as a percent of GDP (chart 20)

Public expenditures on labor market programs include the following seven programs, although not all countries have all seven programs: Public employment services and administration, training, youth measures, subsidized employment, measures for the disabled, unemployment compensation, and early retirement for labor market reasons. Public expenditures on labor market programs are for the year in parentheses: U.S. (2000-01), Australia (2000-01), Japan (2000-01), Korea (2001), New Zealand (2000-01), Austria (2001), Denmark (2000), France (2000), Germany (2001), Italy (2000), the Netherlands (2001), Norway (2001), Portugal (2000), Spain (2001), Sweden (2001), and the U.K. (1999-2000). **GDP** has been defined previously (see chart 1 discussion).

Source: OECD, *Employment Outlook*, Paris, July 2002, table H, pp. 325-32.

Labor and product market flexibility measures (chart 21)

The labor and product market flexibility measures described below are ordinal measures. They provide a broad basis for comparison of an individual country's ranking with others. For example, a country with a measure of four versus a country with a measure of two is not twice as inflexible, but simply more inflexible.

Labor market flexibility is measured by the extent of regulations governing the hiring/firing of workers – termed Employment Protection Legislation (EPL). It is a summary measure that ranges from 0 (no restrictions) to 6 (very restrictive). The following factors are considered: the extent of procedural requirements that employers must follow in dismissals, notice and severance pay requirements, and the degree of regulation of temporary forms of employment.

Product market flexibility is measured by the extent of industry regulation. It is based on a simple average of indicators for seven industries, where each industry is rated from 0 (no restrictions) to 6 (very restrictive). The industries are as follows: gas, electricity, postal and courier activities, telecommunications, air transport, railways, and road freight. Depending on the industry, the following factors

were considered: barriers to entry, public ownership, market structure, vertical integration, and price controls.

Both indicators are constructed by the OECD from a variety of national sources as well as from multi-country surveys. The construction of these summary measures involves difficult choices of quantification and weighting. For further information on these choices, see the source documents.

Sources: The labor market flexibility measure is from OECD, *Employment Outlook*, Paris, June 1999, table 2.2, p. 57; the product market flexibility measure is from the same publication, July 2002 edition, table 5.A.3, p. 293.

Taxes on labor as a percent of GDP (chart 22)

Taxes on labor as a percent of GDP includes personal income tax (which is usually levied on income from capital as well as from working), workers' and employers' contributions to social security, and payroll taxes. Taxes on labor exclude value added taxes and other indirect taxes that are paid by workers in the price of the goods that they purchase. **GDP** has been defined previously (see chart 1 discussion). These figures were initially calculated as part of *The OECD Jobs Study, Taxation, Employment and Unemployment*, Paris, 1995.

Source: OECD, *Revenue Statistics 1965-2001*, Paris, 2002, tables 10, 16, 18, and 20, pp. 78-83.